

- 1 -

SEQUENCE LISTING

<110> The Walter and Eliza Hall Institute of Medical Research

<120> Modified cells and methods of using same

<130> 12567320

<150> AU 2004900673

<151> 2004-02-12

<160> 6

<170> PatentIn version 3.1

<210> 1

<211> 2571

<212> DNA

<213> murine

<400> 1

atgagagagg cttatctcag atgttggatc ttctcttggaa aaaacgtgtg ggtacgaccc 60

tgccaaaggc tgcattttaa aaccgtgtttt cttcaaggca gtctacttta cacggctttg 120

gactcttact caactgtaca agctgcccccc aagtcttagct ccggctccgt gaagtttcaa 180

ggactggcag agactgggat catgaaaatg gacatggagg acgctgatata gactttgg 240

acagaggccg agtttgaaga gaagtgtaca tacatagtga acgaccaccc ctgggattcc 300

ggcgctgacg ggggtacttc tggcaagcc gaggcatcct taccaaggaa cctgctttc 360

aagtatgctg ccaacaacag caaagaggtt attggcgtgg taagtaagga gtacataccg 420

aagggAACAC gctttggacc cctcatcggt gaagtctaca ctaatgacac agttcccaag 480

aatgccaaca ggaagtattt ttggcggatc tattccagag aggagttcca ccacttcatt 540

gatggcttta atgaggagaa aagcaactgg atgcgctacg tgaatccagc tcactctgcc 600

cgggagcaaa acctggctgc ctgtcagaac gggatgaaca tctacttcta cactattaag 660

cctatccctg ccaaccagga acttcttggatg tggtattgtc gggactttgc ggagaggctc 720

cactaccctt atcctggaga gctcacagtg ataaatctca cacaacggaa aagcaaccc 780

aagcaataca gtagtgagaa aaatgaactc tacccaaaga gtgtcccaa gagagagtac 840

agcgtgaaag aaattctaaa actggactcc aatccctcca aaaggaagga catctaccgt 900

tccaaacattt cacccttacac ttttagaaaag gacatggatg gctttcgaa aaatggagc 960

cccgacatgc ccttctaccc tcgggtggtt tatcctatcc gggcacctct gccagaagac 1020

tttttgaaag cgtccctggc ctatggatg gagagacccca cctacataac tcacagtc 1080

- 2 -

cttcgttcc	ccacaactcc	aagtccccct	gcgagcagca	gcccggagca	gaggcttaag	1140
agctccagcc	cccacagcag	cccgggaaac	acggtgtcac	ccctggcgcc	aggcctccca	1200
gaacaccggg	actcctactc	ctacttgaat	gttccatatg	gttccgaggg	cctgggctcc	1260
taccctggct	atgcacctgc	cccccacctc	ccaccagctt	tcattccttc	ttacaatgct	1320
cactacccca	agttcctgtt	gccaccgtac	ggcattagtt	ccaatggctt	gagcaccatg	1380
aacaacatca	atggtatcaa	caacttcagc	ctctcccta	ggttgtatcc	cgtctacagt	1440
aacccctta	gtggcagcag	cctgcctcat	cccatgctca	atccagcttc	cctaccgagt	1500
tccctgccta	ccgatggagc	ccggaggctg	cttccaccgg	agcaccccaa	agaggtgctt	1560
atcccagcac	cccacagtgc	cttctccctt	accggggctg	cagccagcat	gaaggacgag	1620
agtagtcccc	ccagcggatc	tccaacggcg	ggaactgcag	ccacgtcaga	acacgtggta	1680
caacccaaag	ctacctcatc	agtgtatggcg	gccccagca	ctgacggagc	catgaatctc	1740
attaaaaaca	aacgaaacat	gactggttac	aagactcttc	cttaccctct	gaagaaacag	1800
aatggcaaga	tcaagtatga	gtgcaatgtc	tgtgccaaga	cgttcggtca	gctctccaac	1860
ctgaaggtcc	acctgagagt	gcacagtgg	gaacggcctt	tcaagtgcca	gacctgcaac	1920
aagggtttta	ctcagctcgc	ccacctgcag	aaacactact	tggtacacac	aggagagaag	1980
ccacatgagt	gccaggtctg	ccacaagaga	tttagcagca	caagcaatct	caagacccac	2040
cttcgattgc	attctggaga	aaaaccttac	caatgttaagg	tgtccctgc	caagtttacg	2100
caatttgc	acctgaagct	gcacaagcga	ctgcataaccc	gggagcggcc	tcacaagtgt	2160
gcccagtgtc	acaagagcta	catccatctc	tgcagcctca	aggtccacct	gaagggcaac	2220
tgcctgcgg	gcccagctgc	tgggctgcct	ttggaggatc	tgacccgaat	caatgaagaa	2280
attgagaggt	tcgacatcag	cgacaatgca	gaccgtcttg	aggacatgga	ggacagtgtc	2340
gatgtgacct	ccatggtgga	gaaggagatt	ctagctgtgg	tcaaaaaaga	gaaagaagaa	2400
accagtctga	aagtgtcttt	gcaaagaaac	atgggaaacg	gcctcctctc	ctcagggtgc	2460
agcctctatg	agtcatcgga	cctgtccctc	atgaagttgc	ctcacagcaa	cccactacct	2520
ctggtgccctg	taaaggtaaa	acaagaaaca	gttgaaccga	tggatcctta	a	2571

<210> 2  
<211> 856  
<212> PRT  
<213> murine  
  
<400> 2

- 3 -

Met Arg Glu Ala Tyr Leu Arg Cys Trp Ile Phe Ser Trp Lys Asn Val  
1 5 10 15

Trp Val Arg Pro Cys Gln Arg Leu His Phe Lys Thr Val Leu Leu Gln  
20 25 30

Gly Ser Leu Leu Tyr Thr Ala Leu Asp Ser Tyr Ser Thr Val Gln Ala  
35 40 45

Ala Pro Lys Ser Ser Ser Gly Ser Val Lys Phe Gln Gly Leu Ala Glu  
50 55 60

Thr Gly Ile Met Lys Met Asp Met Glu Asp Ala Asp Met Thr Leu Trp  
65 70 75 80

Thr Glu Ala Glu Phe Glu Glu Lys Cys Thr Tyr Ile Val Asn Asp His  
85 90 95

Pro Trp Asp Ser Gly Ala Asp Gly Thr Ser Val Gln Ala Glu Ala  
100 105 110

Ser Leu Pro Arg Asn Leu Leu Phe Lys Tyr Ala Ala Asn Asn Ser Lys  
115 120 125

Glu Val Ile Gly Val Val Ser Lys Glu Tyr Ile Pro Lys Gly Thr Arg  
130 135 140

Phe Gly Pro Leu Ile Gly Glu Val Tyr Thr Asn Asp Thr Val Pro Lys  
145 150 155 160

Asn Ala Asn Arg Lys Tyr Phe Trp Arg Ile Tyr Ser Arg Glu Glu Phe  
165 170 175

His His Phe Ile Asp Gly Phe Asn Glu Glu Lys Ser Asn Trp Met Arg  
180 185 190

Tyr Val Asn Pro Ala His Ser Ala Arg Glu Gln Asn Leu Ala Ala Cys  
195 200 205

Gln Asn Gly Met Asn Ile Tyr Phe Tyr Thr Ile Lys Pro Ile Pro Ala  
210 215 220

- 4 -

Asn Gln Glu Leu Leu Val Trp Tyr Cys Arg Asp Phe Ala Glu Arg Leu  
225 230 235 240

His Tyr Pro Tyr Pro Gly Glu Leu Thr Val Ile Asn Leu Thr Gln Thr  
245 250 255

Glu Ser Asn Pro Lys Gln Tyr Ser Ser Glu Lys Asn Glu Leu Tyr Pro  
260 265 270

Lys Ser Val Pro Lys Arg Glu Tyr Ser Val Lys Glu Ile Leu Lys Leu  
275 280 285

Asp Ser Asn Pro Ser Lys Arg Lys Asp Ile Tyr Arg Ser Asn Ile Ser  
290 295 300

Pro Phe Thr Leu Glu Lys Asp Met Asp Gly Phe Arg Lys Asn Gly Ser  
305 310 315 320

Pro Asp Met Pro Phe Tyr Pro Arg Val Val Tyr Pro Ile Arg Ala Pro  
325 330 335

Leu Pro Glu Asp Phe Leu Lys Ala Ser Leu Ala Tyr Gly Met Glu Arg  
340 345 350

Pro Thr Tyr Ile Thr His Ser Pro Leu Pro Ser Ser Thr Thr Pro Ser  
355 360 365

Pro Pro Ala Ser Ser Ser Pro Glu Gln Ser Leu Lys Ser Ser Ser Pro  
370 375 380

His Ser Ser Pro Gly Asn Thr Val Ser Pro Leu Ala Pro Gly Leu Pro  
385 390 395 400

Glu His Arg Asp Ser Tyr Ser Tyr Leu Asn Val Ser Tyr Gly Ser Glu  
405 410 415

Gly Leu Gly Ser Tyr Pro Gly Tyr Ala Pro Ala Pro His Leu Pro Pro  
420 425 430

Ala Phe Ile Pro Ser Tyr Asn Ala His Tyr Pro Lys Phe Leu Leu Pro  
435 440 445

Pro Tyr Gly Ile Ser Ser Asn Gly Leu Ser Thr Met Asn Asn Ile Asn

- 5 -

450	455	460
Gly Ile Asn Asn Phe Ser Leu Phe Pro Arg Leu Tyr Pro Val Tyr Ser		
465	470	475
Asn Leu Leu Ser Gly Ser Ser Leu Pro His Pro Met Leu Asn Pro Ala		
485	490	495
Ser Leu Pro Ser Ser Leu Pro Thr Asp Gly Ala Arg Arg Leu Leu Pro		
500	505	510
Pro Glu His Pro Lys Glu Val Leu Ile Pro Ala Pro His Ser Ala Phe		
515	520	525
Ser Leu Thr Gly Ala Ala Ala Ser Met Lys Asp Glu Ser Ser Pro Pro		
530	535	540
Ser Gly Ser Pro Thr Ala Gly Thr Ala Ala Thr Ser Glu His Val Val		
545	550	555
560		
Gln Pro Lys Ala Thr Ser Ser Val Met Ala Ala Pro Ser Thr Asp Gly		
565	570	575
Ala Met Asn Leu Ile Lys Asn Lys Arg Asn Met Thr Gly Tyr Lys Thr		
580	585	590
Leu Pro Tyr Pro Leu Lys Lys Gln Asn Gly Lys Ile Lys Tyr Glu Cys		
595	600	605
Asn Val Cys Ala Lys Thr Phe Gly Gln Leu Ser Asn Leu Lys Val His		
610	615	620
Leu Arg Val His Ser Gly Glu Arg Pro Phe Lys Cys Gln Thr Cys Asn		
625	630	635
640		
Lys Gly Phe Thr Gln Leu Ala His Leu Gln Lys His Tyr Leu Val His		
645	650	655
660		
Thr Gly Glu Lys Pro His Glu Cys Gln Val Cys His Lys Arg Phe Ser		
665	670	
Ser Thr Ser Asn Leu Lys Thr His Leu Arg Leu His Ser Gly Glu Lys		
675	680	685

- 6 -

Pro Tyr Gln Cys Lys Val Cys Pro Ala Lys Phe Thr Gln Phe Val His  
690 695 700

Leu Lys Leu His Lys Arg Leu His Thr Arg Glu Arg Pro His Lys Cys  
705 710 715 720

Ala Gln Cys His Lys Ser Tyr Ile His Leu Cys Ser Leu Lys Val His  
725 730 735

Leu Lys Gly Asn Cys Pro Ala Gly Pro Ala Ala Gly Leu Pro Leu Glu  
740 745 750

Asp Leu Thr Arg Ile Asn Glu Glu Ile Glu Arg Phe Asp Ile Ser Asp  
755 760 765

Asn Ala Asp Arg Leu Glu Asp Met Glu Asp Ser Val Asp Val Thr Ser  
770 775 780

Met Val Glu Lys Glu Ile Leu Ala Val Val Arg Lys Glu Lys Glu Glu  
785 790 795 800

Thr Ser Leu Lys Val Ser Leu Gln Arg Asn Met Gly Asn Gly Leu Leu  
805 810 815

Ser Ser Gly Cys Ser Leu Tyr Glu Ser Ser Asp Leu Ser Leu Met Lys  
820 825 830

Leu Pro His Ser Asn Pro Leu Pro Leu Val Pro Val Lys Val Lys Gln  
835 840 845

Glu Thr Val Glu Pro Met Asp Pro  
850 855

<210> 3  
<211> 2370  
<212> DNA  
<213> human

<400> 3		
atgaaaatgg acatggagga tgcggatatg actctgtgga cagaggctga gtttgaagag		60
aagtgtacat acattgtgaa cgaccacccc tgggattctg gtgctgatgg cggtaacttcg		120
gttcaggcgg aggcatcctt accaaggaat ctgctttca agtatgccac caacagtcaa		180

gaggttattg	gagtgatgag	taaagaatac	ataccaaagg	gcacacgtt	tggacccta	240
ataggtgaaa	tctacaccaa	tgacacagtt	cctaagaacg	ccaacagggaa	atattttgg	300
aggatctatt	ccagagggga	gcttcaccac	ttcattgacg	gctttaatga	agagaaaagc	360
aactggatgc	gctatgtcaa	tccagcacac	tctccccggg	agcaaaacct	ggctgcgtgt	420
cagaacggga	tgaacatcta	cttctacacc	attaagccca	tccctgccaa	ccaggaactt	480
cttgtgtggt	attgtcggga	cttgcagaa	aggcttcaact	acccttatcc	cggagagctg	540
acaatgatga	atctcacaca	aacacagagc	agtctaaagc	aaccgagcac	tgagaaaaat	600
gaactctgcc	caaagaatgt	cccaaagaga	gagtacagcg	tgaaagaaaat	cctaaaattg	660
gactccaacc	cctccaaagg	aaaggacctc	taccgttcta	acatttcacc	cctcacatca	720
gaaaaggacc	tcgatgactt	tagaagacgt	gggagccccg	aatgccctt	ctaccctcgg	780
gtcggttacc	ccatccgggc	ccctctgcca	gaagactttt	tgaaagcttc	cctggcctac	840
gggatcgaga	gaccacgta	catcaactcgc	tccccattc	catcctccac	cactccaagc	900
ccctctgcaa	gaagcagccc	cgaccaaagc	ctcaagagct	ccagccctca	cagcagccct	960
gggaatacgg	tgtccccgt	gggccccggc	tctcaagagc	accgggactc	ctacgcttac	1020
ttgaacgcgt	cctacggcac	ggaaggttt	ggctcctacc	ctggctacgc	acccttgccc	1080
caccccccgc	cagctttcat	ccctctgtac	aacgctcaact	accccaagtt	cctttgccc	1140
ccctacggca	tgaattgtaa	tggcctgagc	gctgtgagca	gcatgaatgg	catcaacaac	1200
tttggcctct	tcccgaggct	gtgcccgtc	tacagcaatc	tcctcggtgg	ggcagccctg	1260
ccccacccca	tgctcaaccc	cacttctctc	ccgagctcgc	tgccctcaga	tggagccccg	1320
aggttgctcc	agccggagca	tcccaggag	gtgcttgtcc	cggcgcccca	cagtgccttc	1380
tcctttaccg	gggcccgcgc	cagcatgaag	gacaaggcct	gtagccccac	aagcgggtct	1440
cccacggcgg	gaacagccgc	cacggcagaa	catgtggtgc	agcccaaagc	tacctcagca	1500
gcgatggcag	cccccagcag	cgacgaagcc	atgaatctca	ttaaaaacaa	aagaaacatg	1560
accggctaca	agacccttcc	ctacccgctg	aagaagcaga	acggcaagat	caagtacgaa	1620
tgcaacgttt	gcccacagac	tttcggccag	ctctccaatc	tgaaggtcca	cctgagagtg	1680
cacagtggag	aacggccctt	caaatgtcag	acttgcaaca	agggcttac	tcaagctcgcc	1740
cacctgcaga	aacactacct	ggtacacacg	ggagaaaagc	cacatgaatg	ccaggtctgc	1800
cacaagagat	ttagcagcac	cagcaatctc	aagacccacc	tgcgactcca	ttctggagag	1860

- 8 -

aaaccataacc	aatgcaaggt	gtgccctgcc	aagttcaccc	agtttgtca	cctgaaaactg	1920
cacaagcgtc	tgcacacccg	ggagcggccc	cacaagtgc	cccagtgc	caagaactac	1980
atccatctct	gtagcctcaa	ggttcacctg	aaagggact	gcgctgcggc	cccggcgcct	2040
gggctgcct	tggaagatct	gacccgaatc	aatgaagaaa	tcgagaagtt	tgacatcagt	2100
gacaatgctg	accggctcga	ggacgtggag	gatgacatca	gtgtgatctc	tgtagtggag	2160
aaggaaattc	tggccgtggt	cagaaaagag	aaagaagaaa	ctggcctgaa	agtgtctttg	2220
caaagaaaca	tgggaaatgg	actcctctcc	tcagggtgca	gcctttatga	gtcatcagat	2280
ctaccctca	tgaagttgcc	tccagcaac	ccactacctc	tggtacctgt	aaaggtcaaa	2340
caagaaacag	ttgaaccaat	ggatccttaa				2370

<210> 4  
 <211> 789  
 <212> PRT  
 <213> human

<400> 4

Met	Lys	Met	Asp	Met	Glu	Asp	Ala	Asp	Met	Thr	Leu	Trp	Thr	Glu	Ala
1				5					10				15		

Glu	Phe	Glu	Glu	Lys	Cys	Thr	Tyr	Ile	Val	Asn	Asp	His	Pro	Trp	Asp
								20	25				30		

Ser	Gly	Ala	Asp	Gly	Gly	Thr	Ser	Val	Gln	Ala	Glu	Ala	Ser	Leu	Pro
								35	40				45		

Arg	Asn	Leu	Leu	Phe	Lys	Tyr	Ala	Thr	Asn	Ser	Glu	Glu	Val	Ile	Gly
							50	55				60			

Val	Met	Ser	Lys	Glu	Tyr	Ile	Pro	Lys	Gly	Thr	Arg	Phe	Gly	Pro	Leu
						65	70			75			80		

Ile	Gly	Glu	Ile	Tyr	Thr	Asn	Asp	Thr	Val	Pro	Lys	Asn	Ala	Asn	Arg
						85			90				95		

Lys	Tyr	Phe	Trp	Arg	Ile	Tyr	Ser	Arg	Gly	Glu	Leu	His	His	Phe	Ile
							100		105				110		

Asp	Gly	Phe	Asn	Glu	Glu	Lys	Ser	Asn	Trp	Met	Arg	Tyr	Val	Asn	Pro
								115	120			125			

- 9 -

Ala His Ser Pro Arg Glu Gln Asn Leu Ala Ala Cys Gln Asn Gly Met  
130 135 140

Asn Ile Tyr Phe Tyr Thr Ile Lys Pro Ile Pro Ala Asn Gln Glu Leu  
145 150 155 160

Leu Val Trp Tyr Cys Arg Asp Phe Ala Glu Arg Leu His Tyr Pro Tyr  
165 170 175

Pro Gly Glu Leu Thr Met Met Asn Leu Thr Gln Thr Gln Ser Ser Leu  
180 185 190

Lys Gln Pro Ser Thr Glu Lys Asn Glu Leu Cys Pro Lys Asn Val Pro  
195 200 205

Lys Arg Glu Tyr Ser Val Lys Glu Ile Leu Lys Leu Asp Ser Asn Pro  
210 215 220

Ser Lys Gly Lys Asp Leu Tyr Arg Ser Asn Ile Ser Pro Leu Thr Ser  
225 230 235 240

Glu Lys Asp Leu Asp Asp Phe Arg Arg Arg Gly Ser Pro Glu Met Pro  
245 250 255

Phe Tyr Pro Arg Val Val Tyr Pro Ile Arg Ala Pro Leu Pro Glu Asp  
260 265 270

Phe Leu Lys Ala Ser Leu Ala Tyr Gly Ile Glu Arg Pro Thr Tyr Ile  
275 280 285

Thr Arg Ser Pro Ile Pro Ser Ser Thr Thr Pro Ser Pro Ser Ala Arg  
290 295 300

Ser Ser Pro Asp Gln Ser Leu Lys Ser Ser Ser Pro His Ser Ser Pro  
305 310 315 320

Gly Asn Thr Val Ser Pro Val Gly Pro Gly Ser Gln Glu His Arg Asp  
325 330 335

Ser Tyr Ala Tyr Leu Asn Ala Ser Tyr Gly Thr Glu Gly Leu Gly Ser  
340 345 350

- 10 -

Tyr Pro Gly Tyr Ala Pro Leu Pro His Leu Pro Pro Ala Phe Ile Pro  
355 360 365

Ser Tyr Asn Ala His Tyr Pro Lys Phe Leu Leu Pro Pro Tyr Gly Met  
370 375 380

Asn Cys Asn Gly Leu Ser Ala Val Ser Ser Met Asn Gly Ile Asn Asn  
385 390 395 400

Phe Gly Leu Phe Pro Arg Leu Cys Pro Val Tyr Ser Asn Leu Leu Gly  
405 410 415

Gly Gly Ser Leu Pro His Pro Met Leu Asn Pro Thr Ser Leu Pro Ser  
420 425 430

Ser Leu Pro Ser Asp Gly Ala Arg Arg Leu Leu Gln Pro Glu His Pro  
435 440 445

Arg Glu Val Leu Val Pro Ala Pro His Ser Ala Phe Ser Phe Thr Gly  
450 455 460

Ala Ala Ala Ser Met Lys Asp Lys Ala Cys Ser Pro Thr Ser Gly Ser  
465 470 475 480

Pro Thr Ala Gly Thr Ala Ala Thr Ala Glu His Val Val Gln Pro Lys  
485 490 495

Ala Thr Ser Ala Ala Met Ala Ala Pro Ser Ser Asp Glu Ala Met Asn  
500 505 510

Leu Ile Lys Asn Lys Arg Asn Met Thr Gly Tyr Lys Thr Leu Pro Tyr  
515 520 525

Pro Leu Lys Lys Gln Asn Gly Lys Ile Lys Tyr Glu Cys Asn Val Cys  
530 535 540

Ala Lys Thr Phe Gly Gln Leu Ser Asn Leu Lys Val His Leu Arg Val  
545 550 555 560

His Ser Gly Glu Arg Pro Phe Lys Cys Gln Thr Cys Asn Lys Gly Phe  
565 570 575

Thr Gln Leu Ala His Leu Gln Lys His Tyr Leu Val His Thr Gly Glu

- 11 -

580

585

590

Lys Pro His Glu Cys Gln Val Cys His Lys Arg Phe Ser Ser Thr Ser  
595 600 605

Asn Leu Lys Thr His Leu Arg Leu His Ser Gly Glu Lys Pro Tyr Gln  
610 615 620

Cys Lys Val Cys Pro Ala Lys Phe Thr Gln Phe Val His Leu Lys Leu  
625 630 635 640

His Lys Arg Leu His Thr Arg Glu Arg Pro His Lys Cys Ser Gln Cys  
645 650 655

His Lys Asn Tyr Ile His Leu Cys Ser Leu Lys Val His Leu Lys Gly  
660 665 670

Asn Cys Ala Ala Ala Pro Ala Pro Gly Leu Pro Leu Glu Asp Leu Thr  
675 680 685

Arg Ile Asn Glu Glu Ile Glu Lys Phe Asp Ile Ser Asp Asn Ala Asp  
690 695 700

Arg Leu Glu Asp Val Glu Asp Asp Ile Ser Val Ile Ser Val Val Glu  
705 710 715 720

Lys Glu Ile Leu Ala Val Val Arg Lys Glu Lys Glu Glu Thr Gly Leu  
725 730 735

Lys Val Ser Leu Gln Arg Asn Met Gly Asn Gly Leu Leu Ser Ser Gly  
740 745 750

Cys Ser Leu Tyr Glu Ser Ser Asp Leu Pro Leu Met Lys Leu Pro Pro  
755 760 765

Ser Asn Pro Leu Pro Leu Val Pro Val Lys Val Lys Gln Glu Thr Val  
770 775 780

Glu Pro Met Asp Pro  
785

<210> 5  
<211> 20894

- 12 -

<212> DNA  
<213> murine

<220>  
<221> misc\_feature  
<222> (2935)..(3024)  
<223> n is any nucleotide

<220>  
<221> misc\_feature  
<222> (3125)..(3125)  
<223> n is any nucleotide

<220>  
<221> misc\_feature  
<222> (18390)..(18390)  
<223> n is any nucleotide

<220>  
<221> misc\_feature  
<222> (18519)..(18519)  
<223> n is any nucleotide

<220>  
<221> misc\_feature  
<222> (18552)..(18552)  
<223> n is any nucleotide

<400> 5  
gggggaagag tagtcagtcg ctcgctcact cgctcgctcg cacagacact gctgcagtga 60  
cactcggccc tccagtgtcg cggagacgcgca agagcagcgc gcagcacctg tccgccccgga 120  
gcgagccccc cccgcggcccg tagaaaagga gggaccgcgc aggtgcgcgt cagtactgct 180  
cagcccccggca gggacgcgggg aggatgtggta ctgggtggac atgagagagg cttatctcag 240  
atgttggatc ttctcttggaa aaaaacgtgtg ggtacgacacct tggtaaggaa ccagattctg 300  
tctttaatac gatttggaaac ctttatccc tttttcttcc ttcccttttt ttttaacttt 360  
tcttttctcc cccctcccccc ttttaaaaaaa aaaaaaaagaa tgaagcctca gtagaaacca 420  
gcgcgttctgt tttagtacgc ggagcactgt caaacatcta gaagactttt ttccctccgt 480  
tgaatcatta accctttcag ttcttagacat aattgtcaat tcactgaaat ttcaagtatgt 540  
gttcttgcac gcttcggccac tcgctgcctt tacattactg taactatccc gggttgactt 600  
aggtttcac ttgttatttaa catcgtttgt tccacatggaa ctttacatgt tggaaactaaa 660  
taagaatgag atagtttaag ttgtacccgg gacaaggaca agtaaggatc tttcccccttc 720  
tcggagcgtc ctatctaggg acgaattgt aagaccagct ccggagaggg actcccgctg 780  
tactgtgttt acattttcac aagcgccgcgt tctaacatgg ttatccttat tcctaatttt 840

tatctgcggc	gtctatgtgg	gaatacgttg	cagaggctgt	tttatcttcc	ttgctttcc	900
tctttggaaa	ggacttttc	cgagggcaga	taagaggagg	atccccaa	gt	960
acttttagtta	cagtaaaactg	tgccacttca	gtgacttctg	ggaattcatg	cacttcaca	1020
tttaaataga	aagtgcattt	tgtggctgag	ggctcctaaa	ggaattctct	tcagggatt	1080
ctattgactt	tttttttaat	atgtttgtt	tttaattttt	ctatctggct	cgagatgccc	1140
acggattaaa	aaaacaaaca	aaactgctgg	gtgtttccct	cttccccaa	ttttctttcc	1200
ctgtggtcca	tgggagotcg	ggaaggctgg	tactcaagga	tgctggcagg	atgcaacccc	1260
tctcaggc	tttgcgttgg	ggatgaaaga	gactgaacgc	gcgcgcgcgc	gcggcagagg	1320
gaggggac	cttgcgttgg	aaagttgttt	cgcttagggag	ctgggtggaa	agttcagttt	1380
tccccat	tttgcgttgg	gaaaaggcag	actgggttcc	gttcctgcac	cacacgtt	1440
agcttcattc	agacgcaggc	agcgccccctg	cctcttcctc	cccttgcgtt	tgacacttct	1500
ctgagacagc	ttttccacag	ctctgagggt	ctggcggcca	tgacccgggg	cgtcccggg	1560
cacaggacgc	agcagcgccc	acaacacatt	tctgccttga	gtgataaagc	caaggattgt	1620
tcaaaggtag	ctgttttttc	tctcccgatg	aggtaacat	atacatatac	gtttttttt	1680
ttttttcag	ccaaaggctg	cattttaaaa	ccgtgtttct	tcaaggcagt	ctactttaca	1740
cggcttgg	ctcttactca	actgtacaag	tactccaagc	ttttaagtc	ttcagagcac	1800
cgtgttagtc	atagcctcta	agagggaggc	acaggagcgc	cggacaatgg	ggattaaaag	1860
ccttccctt	ctcttccagg	ctgcccccaa	gtctagctcc	ggctccgtga	agttcaagg	1920
actggcagag	actgggatca	tgaaaatgga	catggaggac	gctgatatga	ctttgtggac	1980
agaggccgag	tttgaagaga	agtgtacata	catagtgaac	gaccacccct	gggattccgg	2040
cgctgacggg	ggtacttctg	ttcaagccga	ggcatcccta	ccaaggaacc	tgctttcaa	2100
gtatgctgcc	aacaacagca	aagaggtaag	ccggctgcct	tcttgaagtc	tgactggcaa	2160
ttgggccagc	tctcctacta	ctatctctga	gaaccgtgag	aatttataatg	cattggcaaa	2220
taattgatcg	ctccagtgcc	tgttttcctt	gttttctctt	caaaccaatt	cctattcatt	2280
tcttcctccc	ttcagctgtc	ctataactaat	tagtaaacag	ttaaattttt	tggcaagttg	2340
acatgtcttgc	ggaaagctaa	ctggcagcac	tggtgcccag	catggtaaag	ggctcagtg	2400
ttcacccctt	ggccctcttg	gatgacagtt	ttaaaggaaa	gaaacttcct	tagaaaaaga	2460
agttttccct	ctgctcatga	gatggcttta	ttcttttaac	gagccagctt	tattagctgg	2520
gtttctaaaa	ttattctcaa	aaccttgacg	tgtttatgaa	ctgaagagat	ggcattaacc	2580

aggaagaggg	tcacgtaaaa	gtgtcctctg	tcaggatgac	ttcactaacc	accctttacc	2640
tgtggcagct	ccctggcctg	ggccaggccg	gcagggccat	gttttatggc	ttctgaagtg	2700
ggtacactct	ttgtatcaaa	gacacagaac	acctgaggag	cacctgattt	gtgttatat	2760
aacaattaga	gtcggctgtg	aagtgattt	caaaataact	ccttgctctg	agaatctggc	2820
tgctgcagtt	gctctcctga	tggcttaagt	tgctgaggct	agccctgagg	agacttccca	2880
ccatcaccat	tgcccacagt	gctgtggttt	ctgatccttg	ctgtcttgg	ggagnnnnnn	2940
nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	nnnnnnnnnn	3000
nnnnnnnnnn	nnnnnnnnnn	nnnnaaggag	ggattctgtg	ttgttaaggat	tccagattt	3060
ctcctaggac	tatgcattat	gaaagtgcc	ggtcactt	ctccttcct	aagcgacaac	3120
atggngaaag	aaactccaga	gttggggaaa	ca	tgtctct	ttcctgttt	3180
ttcagggttt	ggggggggaa	ggagggaggt	ggcaaagacc	gagagctaaa	cttaaagaga	3240
ggaattctac	cttgcgtt	actaaagctc	ca	tctatttct	atggagact	3300
tatttgttt	atgaaaagca	aattttaat	tgtat	ttgtt	gtataaatac	3360
aattttaacc	ccagagg	cccttaatta	ta	cttctt	tgaaaacaat	3420
acagaaagcc	tctgagtatg	taaccgtgg	agtcaatgt	gcgtt	gggtat	3480
ggctggctg	tggctt	agg	tg	tctccc	ccatcagatt	3540
ttggccctt	caaaaaggc	cattcatgtc	ctgtt	gtc	tgtagcctgt	3600
ataaaagactc	ctgg	tttt	gtc	atc	tcagagtc	3660
gccctataaa	gttttcaat	ttt	ctact	tc	tctcagctca	3720
gctattagat	cat	ttt	ca	tc	acggagtt	3780
gccaggccc	gact	ggg	tc	ttt	ctatggctga	3840
ctctggtccc	tct	gggt	tc	ttt	acggacagct	3900
tttca	cct	gtt	tct	ttt	tttgc	3960
ttaagcaacc	agaa	agaggc	ag	ctt	tttgc	4020
gaaagtcagg	gtt	c	ttt	tc	tttgc	4080
ggtagcac	ctt	cggt	tc	ttt	tttgc	4140
cctatcctaa	gcata	acacca	aa	atgtggc	tttgc	4200
ttttgaactt	tgg	gacaggt	cc	tttgc	tttgc	4260

- 15 -

gagggtgtga tagctgcaaa ccagttccag gccagaagca tctaggatgg aggaagtgtt	4320
tacattacca ttgttcagtt agttcggtga gttccatgag ctgtagaaac agggaaaggc	4380
ctttctacgg gtagctttta tctgactgat ctggcttgcc catcttaaa tgtttcatt	4440
aaaatagcaa aagctgttac tttatgtact gtgtgctgac atcctggga ctttttttt	4500
aaaaaaaaaaa aaaacaagat cattttcat tatgaatttgc tgctatgtgt cagcaccc	4560
ccaccccccac ccccccccccc ttgatttaaa aacaaaacat gcaaactgta tttctgatct	4620
taacatcaat ttttagctct ggctcagaat cattctgttc ttttattggg gccgtttgat	4680
cattcttact tcctatttcc agatctaaaa ccaagtacaa gcacactttt caaaactttt	4740
agaacgttta accgggtggg ttcttcttcc gtgggatttc cccctcgcc tcctgaaata	4800
atctctgaat atttgactgc attaaaaaaaaa aatcagttt gacattggga gagcagtatc	4860
caggacaact ttctgctgac agctgagggtg gcttgcctc aggcaactgtg tggctccct	4920
gactctggc tgaagttgag tggtgacaaa catcaggcag atctagggac atgggtgtcca	4980
ttctgattga agtccattat taaattgagc catctgtatg gaatctcagc acaacatgca	5040
attccaccc tcggactttt tatttggtag tatgtgccag agtgcacca catctccctt	5100
cacataaaga taacacgaag caggagaccc ttcaaaaaca cctgctaatt ccttgaaaa	5160
ctggactgaa gtacagactt gatatctcg tctataccct tatagttaaa atacaggaaa	5220
ggaaatctaa ttgttggcg agatttgggg agggaaaaaa cagcaagtaa taaaagtaac	5280
cttaatttga agtgaggaaa ctcaggccac ttttggaaact gaatagtgtc tccttcaaa	5340
tccccctgct ttctactggg ctcctatatc gaacactctc taaatggctg tttttttga	5400
aagcaaacaa acagacccat gctgccccta tcattccact ttcattctgt actccca	5460
ccactcactc catcctgcac ttaggaatc tttttttct aaagttaaaa agaagctctg	5520
ctttttgtct ctgagctcca gtttgtgtcc tatagccaaa gccactgaca gagacagatg	5580
tgcccaggtg gcagaggggt cggctccgca agtcaagcaa gccatgaaga gcttccgtgg	5640
ggctgaagca tgggcagccct aaggaggccct ctttctcttc ctgatgggtg tagggaaaggc	5700
acacagcagc cagtcggccag gagtaattct ttaggaccct ggtcagttcc agtgaagttt	5760
ctttcctcag ttaggtgagc acactcttgg tcttttttagc agtgtgcaac tcaaagcaca	5820
ggtcaagttt ctctgtgccc tctgcttgc ttctggtag ggcactgtaa acaatgggtt	5880
aggaagatgg gttgggctaa gacactcatc tggatcagtt tcctgcttcc cattaagaac	5940
aaccctggct cttacccca tcctaagaca ccccacaaatc accataacccct tagagccgca	6000

gtttctatgt cttctttgat taaggaatca gacatggatt agacgtgaag gtgtttattg 6060  
tgtgttgtta gcatgctgaa cttgagatgg ctataggtgg tttatttgat gttcttttt 6120  
ctgagataga atctttagat gtctgtagtc ggaatgcagg ccacaagctg ctgatcttcc 6180  
tgcatgctat gattagaggc atgcaccaca ccacacctag tgagacaggt gatttcgaag 6240  
ctacagggtt cctctaacct cagaatgctg aattgtgtgt ctctgtttac ctatcagtgt 6300  
gaatttcctc gtgttcttca gctctgtgta tagtaggaat tttaaatatc aaggtcctat 6360  
tgtactcata aaaacaatct aatattgcat tttggtctgg ttatatttcc cagactgacc 6420  
ttggactcaa taatctcttg cctctgcctc agagtggctg ggacttgaag ccaccccaga 6480  
atttctggtt actccttttt ctctcattca catgacttgt ctgttgagtt gcatttgtaa 6540  
ggtaaaagat ggcaggcgct ccaaacactg acttaaacag ctacagtgcc aactccatag 6600  
ttgtgcctaa aaggccttag atagcttgta cttctttct ttttctcccc cccccccccc 6660  
ccaagattct aaataacttc ctttggcca caggacaatg tgtttggta gcgttaaaat 6720  
cggttaggtga aaaccaagcg tctcttctgt agagagaatg gcaatctgga agggaaagctg 6780  
tgacccatt gtactgctcc ttgttggtaa tcaagctctg actcccaaga aactgtgcgc 6840  
aggaggctat aatttaaaac aaagttgatg aaccagtcga gtgcctttct taaaattact 6900  
gctttaaagt ggatatgttg aaattatcag ctgctaatta ttggctccct gacaaatggc 6960  
attatttggatt ttccctgctt ggcattttaa tattatggaa taagcattca aatgtaaatg 7020  
tctaataatt tggatttattt agaagacaat tccatggatt ttacagagtg ggttcaataa 7080  
ttcacccgaa caagcctggg accggaaagt gtagtcaagc attctgtgta aaaatttata 7140  
tccagagtct ctgctctgag atactcttgc tccccaaag ctaggctacc agcagacacc 7200  
accaatgagg aggtgtcttg gaagcataga caggtgtgac gagggcagag gaggagacga 7260  
acatctgctt tttcagacc tttgccacaa attcaaacag gacaaaaat aacaccttta 7320  
actcaacgaa tctgtttcga attgtgctgg atatagagaa tttctcctct cccctttcct 7380  
gtcttaagaa tgccctgtta acatgtattt aatattaaat tatttaacaa aatggcatct 7440  
gacgataaaa ggacacctgt catgagagtg gcctgtcccc actcttcattt tggtttattt 7500  
ccacactaga cccgagttt aactatggat gaggctggat accagtgtgt atcacagtcc 7560  
aagtctcaga tttccactca aactacctga agagacattt atttgcttct ctgcacctac 7620  
cattcaggaa tataatcata ggagaaccgt caacaaaaaa agccaagtaa agataaatgc 7680

tgtgcattgc	cttgcctgg	ctcacctgcc	actgtgaaag	gggtacagag	tcactctggg	7740
ctcatttcaa	ttacttcctg	gtttgtgtct	gagttgtgtt	gttatttttt	tttttttttt	7800
gataccgtaa	aaagaaaagtt	atgctcaagg	aagaatgcca	tagttaatgt	gtttcttcag	7860
caaaccac	agagtcagag	tgtgtgaggc	cttcagtttgc	aaaaggtcat	ttcctcagat	7920
cttagaagcc	acatctttta	gaacccacag	tctcattaca	tattccattt	caaagaggga	7980
cttctgacca	ccattgagta	gatgttggag	aagaacaaag	ttacttgaaa	gatctttcta	8040
gtttaagagcc	cttatgagct	ataagccaaa	ggggatggag	atgtcaactg	gaattttaaa	8100
aaaacaacaa	aaaccttaat	gtgtttggtt	tctggttccc	tcggcctcta	tggAACAGCT	8160
aaagagcatt	attttggttt	ctgaggttaa	aactcttgca	ttttcctcaa	gcattgggttt	8220
tatggtttga	gggagaagac	tggAACTTGG	gaactgaggg	cagtaatctt	gacccctct	8280
ctctctctct	ctctctctct	ctctctctct	ctctctctct	gccttctgtat	tctcttagaa	8340
cggAACATCT	tctgggtcttc	caacatgaga	ggccatagag	ccgagtcagt	cactagaaag	8400
cagtcgtcc	ccgggactat	ttcagtttca	gcacttggat	gactgtaaac	gatgactgtc	8460
acgaagctta	cggctaaactg	tggaggcatg	gatggtgccg	tgctgggtta	tcaattgaca	8520
gttcaattca	ctcagcttagc	tagttgcca	tctcagagtc	tgactaatga	cctcatattt	8580
ttttttccc	ctttaggtta	ttggcgtgg	aagtaaggag	tacataccga	agggAACACG	8640
ctttggaccc	ctcatcggtg	aagtctacac	taatgacaca	gttcccaaga	atgccaacag	8700
gaagtatttt	tggcggtaa	gtaaagaaaac	cttttttta	agactttca	ctataggggg	8760
taaatggagc	ttaaagaaca	ggctcagttc	ccttcaaca	cagcagggt	cacccaggga	8820
aacactggaa	ttctgagcaa	gttccctaga	actggttaaa	cgctctgcct	agaatattag	8880
ctggaggtgg	ttagatgtgg	actacctgtg	aatctcaatt	tttgcactc	attgcataca	8940
ggtctggag	ggaaggaaac	agtttgcgc	ttgcttcaag	ggcaggctca	tttgcatttc	9000
tcttcgagga	agtagtaatg	agtcacggag	acttacattt	cacccttct	tgatttcttg	9060
ctgagttaac	ttcatttcaa	tggaaagagtt	atcctgagtg	aacttgatgt	cgaagacaaa	9120
tgtcactaag	agaggtagat	ggtgggttag	tggAACTGGG	aaggatcatg	gagctagttt	9180
tatttaaatc	catctgcacc	ataaaacggt	tacatttgac	agtatcatag	ttgttaagca	9240
tgaggaaaat	cctcgtgtgc	ctatgagatt	gtagactcag	gtagaataac	tattctaaag	9300
gtctggccta	tgctatctcc	tttggagtgt	cagggtagc	gaggattctg	aggtgacctg	9360
ggagatggga	ttcatgggta	aaaattgttc	tctgagatgt	ctctggcatg	ttcagttttc	9420

ctcagtgtag	aaatgaagag	ctatttatac	aaatttagtg	agctgtttc	ctcacacaga	9480
catgaaatat	acaccaccca	gagaaatggt	aatatccaca	actggattac	atgagaaaaaa	9540
gactttggtt	aaaaaaattac	ttattcctga	gagagtctgt	cttcagctag	gaagtctttg	9600
tttccagaaa	cgtactactt	ctacaactgc	atctgttagtc	ttgttaagta	tttgttctca	9660
atttttat	atthaataact	tagttggtgt	taaattat	tgctccaaga	tcgcagtc	9720
agattatgag	cggtttcgccc	cttattgctg	ttctcagatg	ggagccacca	gtggtagatt	9780
aatcttggcc	ttagctggta	tgaatgaaga	caatccgaca	ctgtcgcccc	gaaaacggtc	9840
aagaaggcacc	aaaggccttc	ccattactgt	ccccactgtc	ccatttaaag	atttacaaaaa	9900
agaatttagac	taaataacta	gaaggcttcc	cttgggagga	attatttaag	tcagttgtcc	9960
acatgcaagg	aagacaggaa	tgaatctttt	cacaggttgg	aagatcctga	tttgtcaagc	10020
aggaatagga	acatctctgt	gttgtgagga	atgaaaggtt	gtcatgcaaa	ttacacagtc	10080
agagatgctc	aggttgagaa	agcagtgaca	tttctgtaa	ctgttagtatg	aatcagcttg	10140
tgttagtct	tcttgatact	ggatggaaag	gctggtataa	gtgtgcctt	tacaaaagca	10200
tgatgatagt	ttcttggggt	gcgtgtgact	ttcacgacat	ccaaggctt	tttttttaaa	10260
acaaggatac	agtaaaccgt	agccatgaaa	ggcctactgg	gatcggcaca	ccctctgcta	10320
gctgtttcca	ccctggtgta	agggcgatgg	aacccttgc	tcctggaaagt	ttgcgcgtca	10380
gagtaaacaa	acttgaaaac	ccctcttgat	agcagaatcc	agtcggtctt	tttacatttt	10440
ctcttaacaa	gatacaccgc	ggaagctctc	gcaggctgct	ttgatgaagc	cacacgcacc	10500
ccccacacac	acacacacac	acacatacaa	ttcacaggaa	gtctctctt	aaagaaaactg	10560
attctgctgt	ttactgcctg	tgttaaagg	acagagttcc	ttttttat	ctgataacgt	10620
tagagggaaa	tacagaaacg	ttcacacagc	ctgtgtgtga	ctaagaatac	agcaaatacg	10680
cctgttagagc	aaactccctg	aggtgagcat	ggaagcgccg	tacctcttgg	agactgtctt	10740
gtgtgtaaag	agggctctct	gctctgaagg	aaggcggtgg	ttcttcaagg	agaggagctt	10800
ttctggagag	gatgaggagt	gagtcttgc	cccctgggtt	tcagtagggag	tgtatttctc	10860
ccctgctctt	aactatgcct	ttaaccaagc	actctgagta	cagctgtgag	tcagaggtag	10920
cattgctgaa	gaagaaccat	atatttctt	tctcttctt	ttccaaaagg	ccaaactcgt	10980
ggctcttgc	tgtgttagacc	gtgtatgcca	gcctcctcac	agatatggc	aaatctctct	11040
actcctttc	aagagagagg	cacagggtgg	ccgcctgtgt	ttaccaagag	gaaaagttac	11100

ttctcgatag gctgtcaaac tttggcctcc gtgccagtgc ctcactctgt tatggcaggt 11160  
gaagttcacc tttgccccac ccagtgttc cacaaaaagg cagggttcca agtattcatc 11220  
tgaacaagtg ttactgtggg actcagggtt gggggtggag gatgttgca gagcctaagc 11280  
cccgggcggg cggaggtgta ggaaacacaa gtacagaggc catagaaaaa aggtgagact 11340  
cagtttgacg cagtcctctc ggctgctgtg cccagtgact caaagcacta gaagtcagca 11400  
gagtttggAAC tctgggctga gcagagtcgc ctgatcgata ttgcctactg tagcaagagt 11460  
acctctttat ggtagttca cccactctcg gctgtgtta atttggatat tattattatt 11520  
attattatttatttttgcatacactgccttc cccaaatgtaa gaagaccata aaattgaaat 11580  
ggaaaggtaa ctagcacaat gtgcctgtt tcctccccca tttctgctga ttcaagcgtga 11640  
gtcccaccgg atcagcaatg aggccctggag tcatgggtac agcgttgggt gctgcctgt 11700  
gttccttctg agccatttcag ggaagcttcc cggtcgtttt gggctggccg gctgtcttc 11760  
acactgcatac tatcctctcc ttttgcatac atctattccaa gagaggagtt ccaccacttc 11820  
attgtatggct ttaatgagga gaaaagcaac tggatgcgt acgtgaatcc agctcactct 11880  
gcccgggagc aaaacctggc tgcctgtcag aacgggatgtaa acatctactt ctacactatt 11940  
aagcctatcc ctgccaacca ggaacttctt gtgtggattt gtcgggactt tgccggagagg 12000  
ctccactacc cttatcctgg agagctcaca gtgataaaatc tcagtaagtg gattccagac 12060  
caaaaaaaaaaaaaat taaaaatgct agtaatgtca gttctgcccc tgtgagctaa 12120  
taacatgttg tctaattata cggcttcgtc atgtgttggc ctaagtaggt ggcttagct 12180  
aagacgagga agagggaaaaa cattctttaa tgtccctact tcttattata aaacataatc 12240  
atcaaagata tacatattac atatattgtaa taaaataacc agtacagaat gttgtttcg 12300  
gaaagttgca ggaagaagta tatttccgat tctaatttat gcaagcggct gtaggcacaa 12360  
tcccaatggg tatggacactg tggAACAGGC cagctgcagt cccttcgtc tgtgctgggt 12420  
cagagctttg agtttcact gaaatcttgc gaaatcttgc gtcataattt gtcataattt 12480  
taatgtggaa agctgttttc tagaaaaaaaaaaaaact gtcataattt gtcataattt 12540  
ctaagtgaat aaccctaaga gatgtcatat ctgagcttcc ttcccttatgg taaagggac 12600  
tgatctcatc tttcaatcag gcttacggta accgcctatc tctttatctt gacaaattct 12660  
tgcttccttg ggtttataag cttttacttt ttctttctt ctttttaat tttggctaaa 12720  
gttactgtca tgccctctag caagcttcc ctcttcgtc agtctcaggt agctttagga 12780  
acaatttaag aataaaaaaaaaaaaaattctt aacttctatt ttaactcagg gtgtgtgttc 12840

tgggttatac tgccgaatct tacagcactt tttcaaatga ccatcttccc atgaaagcta 12900  
aatgttgaag gtttaaaagt tttcatttta atagtctctg aaatttgagt aaacatttcc 12960  
agaaatctat agagagttcc aagctagact ttaccagtt tctactcttc agtctcattt 13020  
gctttccctg gagactaaat gtagttcata ttttaccact gaagcactag aaatattaat 13080  
tttagtattt taactttaa gaccaaggac agtgtctcgc tagccatgtt cattctacaa 13140  
tgcttggtct ctcaggaatt ttcaagtttc tgaaaatctt agcttcagta cctttcctgt 13200  
aggctcacaa tatagtgttt gtgcccgggc ctcagctca gcaacgtaca cccttgagct 13260  
aagcatggtg ggttaggtacc tgcccaatag cagcaagccc tctcctcgtg tttgggtttg 13320  
ctttgggtgt ttgtttgtt gtttgggtgt ttatggacaa ggtctcgtgc tgcttaggtt 13380  
cagttcagac ttgatgttagt cagggaaagc cttgagccac tgcacccctcc aaaatgctag 13440  
gatcacaggc ctgtgcctc cccccacccc tgcctccac catccccca atgcctgttc 13500  
cgagtgttta ctctttgtgt ccagaagtaa gtttcattat gctatgaaat gacagctttg 13560  
ctcttcagac accccccccc ttttgactga tgcaggagtc ttctgagggc cacaggaaca 13620  
cctccttgcgtc ctgacattcc taggacagaa agagagttaa ccattcagct gccgtgcaag 13680  
gctcttgctc ctgattgtga aacctgttg cccaggtgtg gccactgatg actgacactc 13740  
tgatcaggaa aatttccagc atttcattcag gcctaataagg cagatcgagt gtccaagatg 13800  
ggctgtgcta gatttccagg cttaaagcac aatagaggtc tgtccagaat ctccgtaagg 13860  
acttccatca tggggtgcaag gggatggaaa cctaatgaaa gaatgttaatg ccccgaaaat 13920  
cacaaaactga cagggaaagag aagggagaga ggaatgtgga aaagaactgt taaatttagc 13980  
tcctggccct cccaaacccctt ttggtaattt tttttctat ctatctaact aaccatcta 14040  
gaaatcagtt gaccaaaattha tagacttctg aatgttaatc tgcttctcg gttcagttg 14100  
aaaacagact ttgtttgcc tactgcagaa ctcttaggtt ctttcttgcgtc gtcttagggg 14160  
tgcttattat agatcgaaaaa tgtgagtcgg cataattaag ccattcagaa ccttccaaag 14220  
cagctcactc ttgaaatgac tctgtccgccc tacagccatt taagatttaa gaacaaaaac 14280  
agatcttgat ttcttttttc atgttagctc aagctgctaa gtgggagagt tagaaatgt 14340  
atcagctcct gtgatttagtc agctgctgaa ggatgagttt ttaaaaatgt accttcataat 14400  
acagtctata atttccagct gtaaagtatt ttagagactg acattttgct gcggatattc 14460  
cttcaggata agttctcagc ctgggtgttt gtttgggtgt ttgtttgtt tctgaagaca 14520

gagccaccaa acgctaaatt atgcatgtca cggagaaaaat gaaaagctct gacttcattg 14580  
tttcttggtt cagtcattag cttcacagta gttcagtaac taaagtgcctt agcaagaaga 14640  
gagccgatta aacctgtgct ctacactgga agaaagccca attctttata cttaacagct 14700  
ttcatttgtt aagtttccac tgtgggacta ctacaaaaac attatgagtc tttgatgtga 14760  
tttgccacat taaaaaaaaatg gcacagacag gggtgtggtg gcacacaccc tcaatcccag 14820  
tgatcgagag gcagacgctg gtggatctct ttattcttgg ccagtccaat ctatataaca 14880  
agttccagac ctactgagac tgccacaataa gtcttccccc agaaccccc tcaaaaaaaag 14940  
agcagagtta ggaaggccgt acacaagcag gcttgcacac tctcacgcgc tcgctctcgc 15000  
gchgccccacac acacacatac ataggcatac gcacatgcgc acacaacttc tttctctta 15060  
acctgagggt gcttctaaaa tcattatctt tttgtcttac ctccagtaaa tcccttcctg 15120  
tgactgtggg atgcctcgcc tgtcagcctt ccagcttaac ctgtctctct cttcctttac 15180  
cattttagct ttaaaaaaca aaagtgacaa tttgaacttc ctgcctgctg ggctcacc 15240  
gaaggactga tattgggctg ataaggggat atttattttg gttgagagggc ttgagaaatt 15300  
gctctccccc agaaagctt ctgtcactga ccccatcaac atctccctg atagtgttgt 15360  
ccacgggttt tattctgggg ctctggctt cccaggagta actgataaca gccagcagga 15420  
gataacgtcc tgtaaagcgc tttccgactg gcatcaaattc cctccagcct gtcaagcctgg 15480  
agaatggatc tgaaagctt agttctggc ttccacagag ttcatcttca gacctatcag 15540  
gtagcaagct tggagttcct tctcagttaa gcccggagg gctgtttat aagagcaca 15600  
aggatacttc tttacattgt cttaaatgtc attccaaacc tgccagatct tggaggtcaa 15660  
gaatcttggt tctactccga gcatgtgcac ccccaacta atgatgctct cagcatcctg 15720  
gggagaagtg cctgtttgaa tgagcatccc agaaacacaa ctcagcctgt gcatcggatg 15780  
tgttttatct ttggccagg aaagctgagc tgaggcttt cctgcgaaat aggctacat 15840  
aactatggac agtttaggac agtattctcc ttgtctgagc ttgaccaggg catatatgct 15900  
gtctcttagga gtaaatgtt gtctcttagc tgcctctgtc ttctttggtg ctgtaaatg 15960  
ttgaactagc ttgggaagta cctgtcgtgg tttggcagag gtgactgtca cacccacg 16020  
ttccaggaga cagcccaagat ggttgtctgg ttagaccaga accttgggtga aatgctcgca 16080  
ctgcccagca atggctagaa gggcagccg ccatgccctt ctagttgata caggcaattc 16140  
gaacagggtt catgaagttc ctatgtaaag agaatcgagt tggaaattga tgacagttca 16200  
ttacttaaaa ctagtcttaa tctttcatct aagtttgcac agcactctga tttcctctag 16260

gtaaaactgcg aatgacttat taacccgtga caacccccc caacctgtat ttccaccc 16320  
atcttagtga acgctctgcc cggtccagtt tgaacagcac tttctatcc tagttctcac 16380  
taatggaaag gagatcatcc aaggggcaact gggctctatg gaggctggca ttgtcccagg 16440  
gtttgatgtt attcccgatc cccccccccc gccccccgga ggaagtggag cagtgtttct 16500  
gagtgggtgg cccagagccc tccctccgga gtgagaggcg ttaggggcca ggtgtctagc 16560  
ctttgtat tt gctgctgctc agggtttctc aagaagagag aatggcttcc tgatttca 16620  
tcagttctcc acagccctgt gagtaaccgc cctttttct tcatttttagc acaaacggaa 16680  
agcaacccaa agcaatacag tagtgagaaa aatgaactct acccaaagag tgtccccaaag 16740  
agagagtaca gcgtgaaaga aattctaaaa ctggactcca atccctccaa aaggaaggac 16800  
atctaccgtt ccaacatcc acccttca 16860  
acttctaccct cgggtggttt atcctatccg ggcacctctg 16920  
ccagaagact ttttggaaagc gtccctggcc tatggatgg agagacccac ctacataact 16980  
cacagtcccc ttccgtcttc cacaactcca agtccccctg cgagcagcag cccggagcag 17040  
agccttaaga gctccagccc ccacagcagc cggggaaaca cggtgtcacc cctggcgcca 17100  
ggcctccag aacaccggga ctctactcc tacttgaatg ttcctatgg ttccgagggc 17160  
ctgggctctt accctggcta tgcacctgcc ccccacctcc caccagctt cattccttct 17220  
tacaatgctc actacccaa gttcctgtt ccaccgtacg gcattagttc caatggctt 17280  
agcaccatga acaacatcaa tggtatcaac aacttcagcc tttcccttag gttgtatccc 17340  
gtctacagta acctccttag tggcagcagc ctgcctcatc ccatgctcaa tccagcttcc 17400  
ctaccgagtt ccctgcctac cgatggagcc cggaggctgc ttccaccgga gcacccaaaa 17460  
gaggtgctta tcccagcacc ccacagtgcc ttctccctta cggggctgc agccagcatg 17520  
aaggacgaga gtagtcccc cagcggatct ccaacggcgg gaactgcagc cacgtcagaa 17580  
cacgtggta aacccaaagc tacctcatca gtgatggcgg cccccagcac tgacggagcc 17640  
atgaatctca taaaaacaa acgaaacatg actggttaca agactttcc ttaccctctg 17700  
aagaaacaga atggcaagat caagtatgag tgcaatgtct gtgccaagac gttcggtcag 17760  
ctctccaaacc tgaaggtagg tctccagacc cccgcgggtt tctgcccaca gaccgtgt 17820  
ggtttgcct tggctgccag gcagtgcatt gttgagtgca cttgagccat aggagaccca 17880  
gcttgagcct gaactgggtt ctgctgaata ctgaaaatac agggtttatac tcagtgctt 17940

- 23 -

tcctaagagg cttgcacatctg cattgtacat acctggctct gggaaaccta gcagggcaggg 18000  
aggcctcatt gcaaccccaag agttcacccct tgggtttct tcccagggtcc acctgagagt 18060  
gcacagtggaa gaacgacccct tcaagtgcac gacctgcaac aagggtttta ctcaagctcgc 18120  
ccacactgcag aaacactact tggtacacac aggagagaag ccacatgagt gccaggtggg 18180  
cagtattctc tgggtagaac tcttgacccct tggggaaaag tagctgtaga attgtcttcc 18240  
tgtgttgttt caacaataca aaaaatatgg tcttgacta ggctgctggc cctgcacagc 18300  
tcctgggtac tctgtgacta ctcacaggct atactgagga tggctgggtg gatgtcagtc 18360  
aagtttcagt ggggtggggac atgtcctcan ataaacagta cctcagagta ctgtgtgccc 18420  
agcttctccc cccccccccc cccccccccc ccgcgcatga gcattgttaa gaggcttctg 18480  
gtctcccgag gtttctggct attggcctgc ctcccccncnt ccagctgcaa acaattaatc 18540  
ttggtcttcc cntgtgcctt ttctctgtct tcccttgcac tcacacttta ggtctgccac 18600  
aagagattta gcagcacaag caatctcaag acccaccttc gattgcattc tggagaaaaaa 18660  
ccttaccaat gtaagggtgtg ccctgccaag tttacgcaat ttgtgcacccct gaagctgcac 18720  
aagcgactgc atacccggga gcccgcctcac aagtgtgccc agtgcacaa gagctacatc 18780  
catctctgca gcctcaaggt ccacactgaag ggcaactgcc ctgcggggccc agctgctggg 18840  
ctgcctttgg aggatctgac ccgaatcaat gaagaaattt agaggttcga catcagcgcac 18900  
aatgcagacc gtcttgagga catggaggac agtgcgtatg tgacccctcat ggtggagaag 18960  
gagattcttag ctgtggtcag aaaagagaaaa gaagaaacca gtctgaaagt gtctttgcaa 19020  
agaaaacatgg ggaacggcct cctctcctca ggggtgcagcc tctatgagtc atcggacctg 19080  
tccctcatga agttgcotca cagcaacccca ctacactctgg tgccctgtaaa ggtcaaacaa 19140  
gaaacagttt aaccgatggaa tccttaagat tttcagaaaa taagtgtttc gtgttgcttc 19200  
tttaggtatg gcttggtgaa tcagggtgcc ttttagcaaat tgcttgcata tgactccaga 19260  
tctgcaaagc tccgctggca ccgggtgctt ccctgcacccct ctctggaaatt aaagaaggac 19320  
tccaaatgtta cccaaatctc agggcataaaa tgaggcaag actcactata tatacatata 19380  
tacatatacatattataa atatatataat acttatttac agccatgtct atatatttga 19440  
acctgtgtat tttgaatatt tgggtggata tggttgcata ggcgccttcattt attactaaaa 19500  
ctattgccta gccataattha tttttcaat gataattctt cataatttat tatacagttt 19560  
atctttcaaa aagcaataat taaagaagtt tacaatgact ggaaagattc tttgtatattt 19620  
gagtataaat gttgtatctt tgggtggatccatttttgcataattt ctgcacatct 19680

- 24 -

gtttaaatgc	ctgagactta	gaagatagct	ctgtgatttc	aggcaaccc	tctctatgtat	19740
aatgcttaa	aatgagggtt	tgatattgcc	aaagtcatgt	ggttgggtgt	ttaactcaga	19800
agatcacaca	atctgagtg	cattctctaa	gttggggata	catgtgcaga	attgctcagc	19860
aataattga	gggaaaggaa	gaagaaaaat	attttatgtt	tcagaatgtat	ggttgggttt	19920
tcctcctcct	agtcacaatt	ttaccaaaca	gtgacaggaa	ggctttgcca	acctgtctcc	19980
caatgtcaca	tgaccattct	gagtggccat	atgactttgg	catccctggg	tgttatctga	20040
aaatgtgaag	aagataaaaa	agccgtgttc	agaagatctg	tcgtaaagca	cagatgttgt	20100
gtgtgtgtgt	gtgtgggtt	gggggtttga	gtctggctgt	cattttgctg	ttggcttgtt	20160
tttgtttttt	taatataaaa	attgcacaaa	gctggtgccc	taccaagaag	gatttgatata	20220
agaaaggctc	aggccacact	taaaatacaa	gcaagcaaag	agaacagaaa	aaaataaaaag	20280
taaaaacggg	tattcttatac	atcttaggtt	aagcgggtaa	tgaacactcc	tgtccccaaac	20340
gcatcaactg	tattgtatct	gtaaaactca	gctttctca	gtattttgtt	tttgcattgt	20400
ataatataact	taattaaaga	tgaaaggca	ttgcaaaaagt	gttcaacaat	tacccatttg	20460
agtgtatcca	gtaggagtgc	aggaattaaat	gtcgtatctc	atgagttgct	acccagctga	20520
gcgtgtgtgc	ttccaaatgg	taggctgggt	ggttcggtcc	tgtattctcc	taagccccaaa	20580
ggttacctgt	tggtgttcaa	ggtgtaataa	agaatgctgt	atatttatga	acctatttat	20640
accagtatac	catgtgtata	tatgatataat	ttataaccac	ttaaattgtg	agccaagcca	20700
tgtaaaagaa	cctattttc	ctaagagcaa	aaagaatctc	tctgaagttt	tgcttaaaac	20760
tccatgacct	cgctatgact	ttggtgctt	ggcaccaccc	tgcctactac	cagagagcag	20820
agcacctcag	tgcagaggtg	agggtgtgt	gcattttggg	atggatagaa	acaccacacc	20880
atccagtcgc	attt					20894

<210> 6  
 <211> 23615  
 <212> DNA  
 <213> human

<400> 6	gggaagccag	acggtaaca	cagacaaagt	gctgccgtga	cactcggccc	tccagtgttg	60
cggagaggca	agagcagcga	ccgcggcacc	tgtccgcccc	gagctggac	gcgggcgccc		120
gggcggccgg	acgaagcgag	gagggaccgc	cgaggtgcgc	gtctgtgcgg	ctcagcctgg		180
cgggggacgc	ggggagaatg	tggactgggt	agagatgaac	gagacttttc	tcagatgttg		240

gatatttgct	tggaaaaacg	tgtgggtacg	accttggtaa	ggaacttcaa	tttttttttt	300
ttaattctga	aattgatctg	aaaactttat	tttctttcc	tttattgtta	ttattattaa	360
tttttttgg	ctaatgtcgc	agtagaaaca	tgcttctgct	ttagtgcact	tagtgcgtc	420
aaacatttgt	gagactttcc	ttatgaatca	ttaaccctt	cagttctaga	cataattgcc	480
aattcattga	aatttcagta	gtgggttccag	ctcacactcg	tcaaactatt	ccggggttggc	540
tgaagtttc	tattttattt	tattttaac	atgtgttgg	cgtcatgact	ctacatgttg	600
gaactaaata	aaaataagca	ggtttgctta	aatcataact	gagggaaaaa	caactttgca	660
tccaaacttt	ttttttttaa	gagcatccta	tttagagaag	tggaagaatg	taaaaaacctc	720
cttgaaggac	ttccacagaa	tgttatgtt	acatttgaac	aaacacacat	tcttacatgg	780
aatgataacc	catattcctc	attttatca	aacatgtcta	tatgagaaaa	cccttacaga	840
agttgtttac	cttttttgc	cttggaaaa	cagttttt	ctgagtgtga	gggaggattt	900
tggggaaata	tcctcatcaa	tgtacaagt	gaagcagagc	ttgtcctcca	agtcttctaa	960
atttgttata	acttttagtta	cagtaaactg	tagtacatca	gtgacttctg	ggaattcata	1020
cactttcaga	tttaaatgga	aagtgttatt	tgtagctgag	gactcctaaa	ggaattctct	1080
ccagggaaatt	ttattaaacg	gttttatgtt	ttgttttgc	ctttcaatt	tggtatgaga	1140
tgcttgcaag	tcagaagaca	ctgcaggctg	tttcccctt	cacccattt	tcctcctctt	1200
ttcctgtggt	ccaagtgatt	tctaagaggc	cgtagctcag	tgtgctggc	aggatgcaac	1260
ccttttcagt	cttccatgtg	agaggatgaa	agagagctcg	cagcagaggg	aggaggcagt	1320
tgttttgaaa	gttgtttgc	gttgggagct	ggtggaaag	ttcggtcttc	cccatttgga	1380
aaaggcagggc	tgggttccgc	tcctgcacca	cacgcgcctt	ccattttag	cttcattcag	1440
aggcagacag	agctccttcc	tcttcctctc	cttgggttg	acactttct	gaggcagctt	1500
ttccacagtg	ccgaggggtct	ggcggccatg	accccaggca	ttctgggaca	ctggactgtg	1560
tgcccagaac	atttttctgc	catgagaggt	aaagccaggg	attgttcaga	ggtgattctt	1620
ttttttttt	tcctttccc	cacagtgagg	ttgccacatt	ctttttttt	ttttttttt	1680
taactaagag	tagcattaa	aaaccttgct	tctttcaag	gcagtttact	ttatacggct	1740
tcttggctct	ttctcaactg	taccaagcac	tctgcacatcg	cttttaaagt	cttcagacta	1800
ctgtattagt	catagcctct	cagaaggagc	cacaggaacg	gcgggacaat	ggggattaaa	1860
ggcccttcct	ttctcttcca	ggctgcccc	aagtgtact	ccagcactgt	gaggttcag	1920

ggattggcag	aggggaccaa	ggggaccatg	aaaatggaca	tggaggatgc	ggatatgact	1980
ctgtggacag	aggctgagtt	tgaagagaag	tgtacataca	ttgtgaacga	ccaccccctgg	2040
gattctggtg	ctgatggcgg	tacttcggtt	caggcggagg	catccttacc	aaggaatctg	2100
cttttcaagt	atgccaccaa	cagtgaagag	gtaagcctct	ggtttattga	caagaagatt	2160
ggggacctgg	tgccaaatct	ccctacttgc	ccttggggcc	ttgtatatact	ctgaaaacct	2220
ctgagaatct	gtaagtatca	gtaaataatt	gattgctcta	ttcaattctt	gcattgctt	2280
ctcttccct	aaaccatttc	cttctcattt	cttccagcct	tcaactgttc	ctcactaatt	2340
agtaaacagt	taaatatttt	ggcaaattgg	catgtcttag	aaaagcaact	tgcagcatag	2400
ggtgggtgaa	attgtcagtg	aacttcaaga	aagctctggg	cccactggcc	ctagtgtccc	2460
tgttgcacaa	tatctcttaa	gggagaaaaac	tttttcttgg	aaaaaaaaagt	tttaatattt	2520
cttttgcctg	tctttggtaa	ttagttggct	ttactctttt	taacaagcca	gctttattag	2580
ctgggttct	aaaactatcc	tcaaaaacttt	gacgtgtta	tgaagtgaag	tgatggtata	2640
agccgagaaa	gggggtcatg	taaaagtgtc	ctctgtctgg	atgacttcag	agctaaccac	2700
tgttatctg	cagcagctcc	tttgctgggg	ctgggctggc	aggccaattc	cttactggcc	2760
tctgaagtgg	gtacactctt	tgttgcacca	aagggatga	aaacccaaac	ttggaatgag	2820
caactgattt	gtgttacct	ttaatataaa	gattatagct	aggcgtgatg	tttagctgtg	2880
aaataacttg	cagaaccacc	tcttgccttc	agaatttggc	ttactgttagt	tgcacttact	2940
agtctactac	tgggttgagt	tgaatgaaag	gaccctcag	cagacttccc	ataccaccat	3000
tagcacagag	cactgtcaat	tcttattactt	ccttcagaaa	gtagggaaag	gggatggttg	3060
gccgtagaaa	tccagaattt	gctactggga	ctattcctta	cagccgtgtc	aaatcacttt	3120
cccccttccc	taaggaacag	tatttgaagg	aatccggag	actaggaaat	gctttgtctc	3180
tttcctgttt	gtgtgtctga	gtcccagtgtt	tttggtgagg	gggagacaca	gctgtctaaa	3240
attaaataga	acaacgatgc	tcagtcttcc	ttttttcccc	cactgctgca	tgaatggagg	3300
cagattttat	aaaaaataaa	atttaaattc	tagttgttagt	tgaatgttac	caaaaaattt	3360
aaccccagag	gtcagcctta	attatacctc	ttcctgaaag	taatgcttctt	cttatagaaa	3420
gtctctcaat	atgtggccct	tggaatgaat	gtaggatttg	tttgggtata	tgaggtttga	3480
ctatggcttt	aaaaagtgtta	gtgtgttttt	tccccatatc	aagtttgacc	aaatattcgt	3540
ctgttcccaa	gcttcgtttt	tgctgtgttg	ccctgtccag	tcctttggga	ctgaagtaaa	3600
aatctccatt	ctgtgggtca	tctttgcctt	ttaattctat	aatgttctta	tcgtcagttc	3660

agctcttagc ttaagttttt caattccgt cattccctt taaaatcata gctaagtcaa	3720
gtaatgctct tagatcattt agttcaaggt tcagaaagac agtcacttac ccaaaggcat	3780
ataggtaaag ccagaccggg gacttgaagc aaagctttc tgacttctcc aatgagtgct	3840
tctcgattat gctacactgg cccctcttgg tgtcactgtg gtttagtta tcatcttaat	3900
atatttcaga ccaatcctta agctattttgc tgttttttc cctctgaatg tataacttcc	3960
tatttcaata tattaagcaa ccaaaaaaca gacaatgcct gtgttcctga agaaggcct	4020
tcgaaaactaa cctaagaggt gagggttctc ttatcctatt tccctatctt gcatttaact	4080
gaagcgcttgc aatagaggat agtatgtctt taaaccctaa tcataaagtc aagcaaggag	4140
taaactgaa tgtaatactg tcttaagctt actctggaat ttgtacctgt ttttctgttt	4200
ctctccttttgc tttttgaact. ttgggaaagg acagcttcct tttagaagggtg aaagaggatg	4260
gtggagttga gccattaagg gtaggatagc tgcaaactag ttccgggaca gcaacattaa	4320
ggattgatga aatgtttaca ttatccttatt tcagtttagtt cttaagtttc catgagccat	4380
tgaaatagga agagtcttac tacatgtact ttttatctga cttattaatc ttgcccttct	4440
ttaaatgttt tcgtttaaat agcaaaaagat gttacaatat gtactattgt gctgacatac	4500
cggggaaattt tttttttaca agaccatttt tcattatgaa tttgtaccat gtgtcagcac	4560
cttttttttt tttttgggta aaacaaaaca tacaaatcat atttctgatc ttgaccctca	4620
tttttagatt gggtttagaa tcattctgca cctttaatga aaaaactgttc ttacttccta	4680
tttccagaac tgaaatcaaa tatagaccta ctattcaaaa ctttgaaaat gttttaaact	4740
gatgggttat tcatttatgg gggttttccc cttgtcctcc tggaaataatc tctttagact	4800
acttgactac agaaaaatca gttcaagcat ttatatttta gaagcgttac cctgttagagt	4860
ttctgcgcgc ggttgagact gcttgcactc aagaggcact gtggctctgt gagtctcacc	4920
tccctgtatc gtggctgata aacatcagac agattgtgag gactccttgc gtgtccattc	4980
tgatcgaaat ccattattaa ctcaagccat ctgtaaaaag tatctcacca taacatgcaa	5040
ttctctcttc atgttgccctt ttatggaga aatgatgtac caaggcatca ccatgtctcc	5100
tttaatagaa agataatgaa gaaggaaacc ttctccaaac aactttgttc acttcactcc	5160
ttttaaaaat ggggtgatttgc cggggcgcgg tggctcacgc ctgtatccc agcactttgg	5220
gaggctgagg acagcagatc acctgagggtc aggagttcaa gaccagccta gccaacatgg	5280
tgaacccca tctctactaa aaataaaaaa attagccggg cgtgggtgggtg ggccgcctgt	5340

atcccagcta	cctgagaggc	tgaggttagga	gaatcgcttg	aacctgggag	gtggagttag	5400
ccgagatcg	gccattgcac	tccagcccag	gcaacgagag	tgaaactctg	tttcaaaata	5460
aataagtaaa	taaatccat	tgcactccag	cccaggcaac	aagagcaaaa	ccctgttct	5520
aaataaataa	aataaaataa	aatgaggtg	attgcaggct	gaaggtcttg	gtcactactg	5580
agttcttagtt	ctctcaagac	aaatattcat	atggtaaaaa	cagaattata	atctaacgag	5640
tcattcttat	agagtggat	tcggggaggg	aaaacagata	gctagtaatt	taaatgatct	5700
taatgttaatt	tggggagagg	atgatcagat	gacatttaga	cttggatata	gtttctgctt	5760
caaaccacg	ctgtgtgtgt	ctgtttgcat	actctctaaa	gaaggaattt	aaaaaaaaaa	5820
aaaaaaaaaca	aacctatatt	gtccttgtta	tcagccttcc	attaagcgct	ccaaactcaac	5880
ccatcctaag	ctgtcaaatc	tccttcattg	tgtaaaattt	aaaagaagcc	ctgtgtttt	5940
tccggaagct	gtggaaactg	tggacggcgg	ggtgtgttct	gtaactgagg	ccacagacag	6000
aaacaaatct	gctcaagtgg	tggaggggtc	tgcacccgac	ataaaagagct	tctgtggag	6060
caggtgaagc	aaggaggtat	tgaagccggg	tgtcctctt	ctgttgagtt	tatagaaggc	6120
acagagcggc	ctgtccccag	cagtaattct	ttaggaccct	ggtcagttcc	agtgaagttt	6180
ccttctttag	ttaggtgaac	acattcttt	tcttttagc	actgtgaagt	ttaagctaca	6240
caccaagttc	ctccttagta	tttgcttgg	tcaaagataa	actgttacaa	actatgggtc	6300
agggagatgg	gtagtctaag	atgcacattc	tggatctt	taggaccaga	gggagactta	6360
gtacttggtt	ttttcacttc	ccttaaaaaa	caatcctgg	tcctgttccc	cctccaaagt	6420
tacctggaca	agcaccatag	tcttagagtt	tcagcttta	tggcgtctgt	gtctcagacg	6480
tgcattttag	atgaagatgt	ttactgtata	ttagaacgct	agacttagaa	tggatataagg	6540
tggtttgtaa	gtgccttcca	gtttgaaat	tttatgattt	tgtatcttta	tctataggtg	6600
tgagtttata	tgtgccctat	agcactgtat	gtaattgaaa	tttaaaatat	tagggcgctc	6660
tgtcccttcc	ctaataatataa	gctaatattt	aagcttta	atttgcgttgg	ggtttgagga	6720
ttatcataga	cctctcttct	accacagagc	cttctttt	taattgttct	cctgtcttgc	6780
ctgttgaaatt	gaatttggtaa	ggtagagat	ggcaagagct	acttccggtg	ctgcttata	6840
gcttactagt	gatgagtcta	tagttgtct	caaataggta	ttgggttagct	tatgctttct	6900
agttgacttc	tttttggca	caagaaaatg	tgtgttaagat	ggataactga	aaacctagag	6960
gcccattctg	taaaagaatg	gcaatttgg	agaagaacca	cgacctcagt	gcagtgctcc	7020
gttttggtaa	tcaagctctg	actccaaaga	caccatctgt	aagagactat	aatttaaaac	7080

aaagttgatg aaccagttga gtgcctttct taaaattact gttgtaaagt agatatgtt	7140
aaaatatcaa ctgcttaatta ttggctcacc aacaaatggc atgatttgtt tttcctgttt	7200
gtcattctaa tattatggaa taatcactga aatatgaatg ttaaatgatt tgcatgtcat	7260
agaattcaat tccattaatt ttccaaatatta attagattca ataataatat gtccaaaaca	7320
atgagcctct gaataagtct actaaagctt taaatatata tatttatatc tcaagactgc	7380
tctgagatac tcttgcctttt agtagttta ctgccaacaa ataccaataa tgacaaacgg	7440
tgattaaaag ggcagataga tgtaaatgaa ggcagaggag gaggatgaaa tgaacatctg	7500
ctttttcag ctctctgaca gaaattctta aaggaccaa aataacactc ttgtttcaac	7560
ttatgttagg tgttagaaaaa ttttcttttt ttctcttcc agtctgagta tgcttcattt	7620
atttgtatata tgaataactaa attgttttag aaaaaaaaaat cattggctga taagacactt	7680
aaatgagaaa agctagtctg tcacaggcat gtaggtgtgc catatctatt taaatagagg	7740
ttaaaattat tgatgagact taatgaggaa ctgggtgtata ttgttaaccaa aattgttagat	7800
tccactgtga acaatctgtg catggatcga ttcacatatt tgagtctacc atttcaggta	7860
catgaatgtc caggagctac tggaaatata aaaactggaa aataaacatt atcatctatt	7920
accactccct cctccttggt ccatttttagt aaagaattca gtaaagtgtat aggtaggcta	7980
tcttgaatga gaagaaaaata aaacttaggaa agttagagagaa taaaaaccaa aacaaaactg	8040
taactgcaaa ctgttgtaaa ggactactca cagaggagtt ctattgaata gtgacgaatt	8100
gcttcctgat tcacgggtgg tgattttttt acccccttcaa agagaaattt attattaagg	8160
aggaactggt atagttaca tgggttttta gcaaggcccc acaaagttaa aatgtgtat	8220
gcatccagtc tgaggtcatt tcctcagatc ttagaaccta cagctttctt ccgtataaac	8280
ttaatttcaa aggaggcctt ttggccaggc atgggtggctc agcctgtat ctcagcactt	8340
tgggaggccg aggtgggagg atcgctttag tccaggagtt tgagacaagg ctggcaaca	8400
tggtgagacc ctttctcaac aataacaaca aaaattagct gggcgtgtat gtgcattgcct	8460
gtagtcccag ctactcagga ggctgaggtg ggaggatctc ttgatcccag gaggtcaagg	8520
ctgcaatgag ctaagatcaa gccactgcat tccagcctga gtgatagtgg gagaccttgt	8580
ctttaaaaca cacacacaca cacacacaca cacgaggccc tttgaccact cttgagtaga	8640
agactcgaga agaacaagt agaaggccag agaagaacaa agttacttga aagatctt	8700
attaaagaga atgtacaagc tatgaaaaaa aaaaaacaca cacacacaca caaacctcat	8760

- 30 -

ctggaatgaa	aaaaacataa	tgcatgggt	ttctggttcc	ttaggctgtt	atggaacaac	8820
caaagaacat	tatttgggtt	tctgaggtca	gaactatttt	attcccctca	agcacactat	8880
gcttatggtt	tgagggagaa	tgagaaatag	gaaacttagga	acaggctgaa	atggtctaatt	8940
cttgaccatc	taattctgca	gtgtcttatt	ctcattctaa	aagagaatgg	ttatattcgc	9000
tgttctagca	taaaaagtaa	tgataaaaaat	aaaagatccc	gtattaccag	acaataatcc	9060
cctagactgt	tttaatgctt	ggttgagtat	ttgcttatga	tctcagactt	taaaaagatgg	9120
tctcccccta	tggtgaagct	tgttaattat	gtagggcatca	ttaatgtctg	tttacttattc	9180
aaaattttat	cattgttagt	tgtattacta	cttgacagtc	caatttattt	aattgaaaag	9240
attggtaac	atttatagt	caaagtaatt	gtttcctgtg	tttttccttg	tttaggttat	9300
tggagtgtat	agtaaagaat	acataccaaa	gggcacacgt	tttggacccc	taataggtga	9360
aatctacacc	aatgacacacag	ttcctaagaa	cgcacacagg	aaatattttt	ggagggtaag	9420
taagggaaat	ttcttcagac	ccattaaatg	tttagaaaaaa	atggagctaa	aagagctggg	9480
tggctcacct	ttctcatcct	gtgctgagaa	atgctggggc	tcaccataa	gtatccagca	9540
tccccatgga	cacagggaaat	tctgaacaaa	tgtgatgaaa	ccgatgaaat	gtctggcctg	9600
tagtggtta	gtgatggaga	tacgggctat	atgtgaatct	tgattttgc	aattcattag	9660
agctttgtaa	tgaaaggaaa	cagttgttg	cttgctttaa	ggataggttc	attgcattt	9720
ctccgcaagg	aagtagtaat	gagttaccaa	gccttagatt	tcaccccttt	ttgatttctt	9780
gctgacttaa	ctttaattga	atggaagagt	tatcacaaaat	gaattatctt	tttggttttt	9840
tttttttga	gatggagtct	cactctgtca	ccaggctgga	gtgcaatggc	atgatctcgg	9900
ctcactgcaa	cctccgcctc	ccaggttcaa	gcaattgtcc	tgcctcagcc	tcccgagtag	9960
ctgggactaa	ggtgcgcgccc	accatgcccc	gttaattttt	gtatttttag	tagagacggg	10020
gttccactat	gttggccatg	atggtctcga	tctctggacc	tcgtgatccg	cccaccttgg	10080
cctcccaaag	tgctggaatt	acaggcaaga	gccaccgcgc	ccagccagga	atgacaaaatg	10140
aattacctta	taagtaaatg	ccattaagga	aggatagctg	gaagatgggt	tgagggaaat	10200
ggaggaccac	agaactagtc	ctatttaat	acatgtgcat	ggtaaaatga	ttccatttga	10260
caataggtta	attatctcat	agcataagga	aaatgcttaa	cagtcatatg	caagatgata	10320
agctttccta	tagcatccaa	ccaaaagatc	tagccagtagc	aatttccttt	gctatattag	10380
ggtagaaag	gcccccagag	gtgaaccaat	tagatggaat	ccttgaataa	aacactggat	10440
tagcagtgaa	cagaaaaaaag	tcagattgct	ttccttccttc	ccatagatgt	ctcagggata	10500

tttagttcc tcagaagata aagaatttag taagcgttt tttgtgcata cttacatgaa 10560  
atgtacatta tttgaattct ttaaaaagaa acagctgcat gataacaaaa attgtgttat 10620  
gcttgcttta gctggtattt ttgcctagaa cgattatatc gttcggacaa gaagctattc 10680  
ctaagaaaca atattttaa tccaggaagt tttcatttt tagaaattta tcttactatt 10740  
tcccaagcaa aagaggtag ttacagattc actaagaatc atgtgctcac aattttatt 10800  
taataattat tcctccttaa aatatattaa tcacctgact tacaatggtg gaaccatgag 10860  
tgcattttg ccttattgt caataacgtc ttctcagaag tgagccacaa aggtgcata 10920  
ttcttgagt taaaggctcg aattaagaca atccagcata agtctcatta atgtgtgatt 10980  
attttgagaa aaggcaagaa gtacctaaga atctccccct cactgtccag ttccctgttt 11040  
catattaaga ttcaactgtaa gtaactgaaa ggcttcctt gggaggattt atttgaatca 11100  
gtcttcaca tgcaaaggat attgtagaac atctcgttt tgctggcagg aatatgaaca 11160  
tctgttgtga ggaaagaaaa agtttcatgc aaattacact gccaaagaag ggatgttcaa 11220  
gttgagaaac cagtgacatt tcttctaact gtactatgaa tcagcgcatt ttaatcttct 11280  
agataatata tggaaagtgc ggaagggtgg aggaaacggt gttcattttt catatgcgtt 11340  
attttattct gtgtgagtga ctcatggca ccgacattgc tgttttaaa tgaggataca 11400  
gtaaattgca gtccgaggaa ggctaactgg aatcaacata cccgtagctt tagaaagcag 11460  
tttccgcacc agcgaagagt acaagagcga tggaaaccca tgttcctgga agtttgcaca 11520  
tcagagtaaa caaacttgaa aacccctttt gatagcagaa ttcacccagc cttgttccat 11580  
tttctcttaa caaaacacac cgcaaaagct ctcacaagct gctttgatga agccacatgt 11640  
atttccccct tcacaattta caggaagtta ctcttaaaag aaagtgattc tggtgtttac 11700  
cgccctgtgtt aaagggacag agttcctttt tatttctgat aacgttttag cgaaatacag 11760  
aaactatctg tagacttagca tagtcggtagt gtgagtaagg aaaagcaata acctgctgtc 11820  
cggtgagcac aaaattcctg ctacgaacag tgccttactg ctgcttggag actgcaagtc 11880  
gcagatcaca ctaggtattt actgatttgc taagggaaatt tcttaaagtc taaagtaaag 11940  
gtggtacctc ctaaaaagag gggaaagagag aaaactttgt gtggaaaggat aaggagtgt 12000  
tttatagttt cagtaagagt gtacgtttt attttcttc ttccctctgcc tctttgcacaa 12060  
ttagcctgag tgcacatgtt atccagaagt agtattactc taggacaaac ttcaaattct 12120  
tcattctgcg ttgcctttaa ggaacaacat actttcttcc tgttctttt ccaaaaacac 12180

- 32 -

acgcctatgg	ctctgtgtgt	ggtgttttag	ccagcctcct	cccagataag	gggttccctt	12240
ccctcctttg	cattgaaagg	aaagtgcag	tctggacatg	tttatcaaga	ggaaaagtga	12300
cttctcagta	atagactgtc	aaattcgggc	tgctgccga	gtgttcgctt	tgttatggca	12360
ggtgaagttc	acctttgccc	cacccagtgt	ttccacaaaa	aggcaagggtt	ccaagtattc	12420
atatgaacaa	gtgttacttt	aggacttgga	gggttggggg	tggaggatgt	ttgcatagtt	12480
gaagccttgg	gcgggggtgt	agggaaacggc	gagtacagag	gccatagaaa	aagctaagac	12540
tcaagtttgc	gtcgtcagcc	ggcttggtct	tctaccagg	gactcaaagc	actaaaaagtc	12600
agcataatcg	gaactgaagt	cagtagcatc	gcccatttgc	cattcactgc	agtagcaaaa	12660
gttagtactct	gtggtgggtt	aatcggtttg	aggcagctcc	ttaaatgaac	atttgtgttt	12720
catttttctg	ttattttccc	gaacatgaaa	agacgataaa	actgaaatgg	aaaaggtaac	12780
tgacaaaaagt	gtgccttacc	tgtttccgcc	ctgatttctg	ctgattcaag	actattctgg	12840
ctaaactgat	tggattcttt	ttcttaactag	gcagtagggg	atcagaaatc	acacacggta	12900
ccggctgtgt	ttatttctgag	aggtgctggg	gagctttggg	tctgacttcc	ttttacatgc	12960
ctgtcttctc	ttttggacag	atctattcca	gaggggagct	tcaccacttc	attgacggct	13020
ttaatgaaga	gaaaagcaac	tggatgcgct	atgtgaatcc	agcacactct	ccccgggagc	13080
aaaacctggc	tgcgtgtcag	aacgggatga	acatctactt	ctacaccatt	aagcccatcc	13140
ctgccaacca	ggaacttctt	gtgtggtatt	gtcgggactt	tgcagaaagg	cttcactacc	13200
cttatcccg	agagctgaca	atgatgaatc	ttagtaagt	gattacagaa	caaaaaaata	13260
aaaaatgcca	gtaatgtcgg	ttctgcccct	ttgaactaat	aacatgttgt	ttaattatac	13320
ggcttgtca	tgtgttggat	gaagtaggtg	gcttaagcta	gggacttagga	agaggaaaaaa	13380
catttttga	gtcccttatta	actattagga	aacttgatca	tttaaaagta	tatatatata	13440
tgaggagcta	ccttgagttt	tgaattcagg	atgttacagg	aagaaatata	tgtccaattc	13500
taatttatcc	aaaagcagtt	gggagaatta	cagggattgg	tccagacatg	ctgcgtatgc	13560
aaggatagc	cctcatctgt	ggtactttgg	cagggcttag	actgcataaa	aatatttata	13620
gatgtacatt	ttagtgtaca	gttaggatct	gatgtggAAC	attgtaaagat	cattgctaga	13680
aaaactttgt	cataattttt	caatattatt	ctaagtgaat	aaccgtaaag	attttacatc	13740
ttagcttccct	tccttacagt	aaaaaaacta	tctgatctct	tgatcagtat	tatagtagcc	13800
acctatcact	ttatcttaac	aaattctcaa	ttccttaggt	ttatgtgctt	ttacttcttt	13860
tatttgatta	aaattgctgt	catgacctct	ctctgcagag	ggctgcata	ttttggcat	13920

tctcaagtga	tctctttgag	caatttaaga	attgccataa	gattctaacc	tctgctgtaa	13980
ctatggttgt	gtgttcttgg	ttagaccact	aaatcttatt	agcagtttta	aaaattattc	14040
cttttggttt	agaagttaag	actaaatgct	gaagttttg	taacttttg	ttttgatatc	14100
atttcaaaact	taagaaaaca	tttgaagaaa	aggacaaaga	atttccactt	accctttacc	14160
caggttacc	agttatttgc	aagtataatcc	atttgcttta	ccagaaggct	aacttggttt	14220
agttctcatt	ttcacctttg	agacatttgg	aataaataatc	aatgttaaca	taaattggaa	14280
ttttgacttt	gattttagga	ccaatgaaca	agccaagtac	ttaccctagt	catatataat	14340
ccaaactgtat	ggttatttgg	tattcattcc	acacttcatt	ttacttgatc	tcccttaaga	14400
ttgcaagatt	gtgtttgcag	tttttctgaa	aatctggggc	tataaaagca	tcaggacctc	14460
ccccgtaggg	gaggtcgtgt	gtttggggc	cttacacaac	aggttaccct	tgagcttcag	14520
aaaaagaact	ggctctcagt	tccccagttc	cagcttaatg	ggtctaatta	ggtcctgacc	14580
aaaaagggtgg	cagttctttt	ccctcatgtc	tcttcagcgc	tccccgagac	tctggagact	14640
ctgtcatatc	cctagggctg	agcctcccag	gaaccattcg	gctgttgtgg	catctgtgta	14700
tgccatgccc	agtgctgagg	acctagtaac	aaacgacaaa	tgcacaggca	cagtggcatt	14760
tttgcgaaac	tcgtattcca	gctgtgcgtc	tcagaagaag	cgcacagctc	cctcctggct	14820
ttcttaacat	agtgagccac	ttccacttaa	gggtctcctt	acattccttgc	agttaatca	14880
ttcatggatt	cagagggaaag	tcttttgcatt	tttgcttttc	tttaaacagt	tcatttgagg	14940
tgacctaccc	cagtgacttt	gcaccaacca	ccaaagaaact	tttttgcattg	cttccgcac	15000
cctgtgccaa	tcaaggaaag	ggtttaaagg	cctggcggtt	ttattcctca	aagaaagggtt	15060
ttgcacagta	ttttaagggtt	caagtgcattc	tactttgtgt	tcagaagcaa	ctgtcatata	15120
tactgtgaaa	tgacacccccc	tatttatccc	tttttattta	tgcagttatgt	ccccttttat	15180
tttggcagaa	tttttctaa	atgggtggttt	aacattttca	agcacatttc	attgtccaaat	15240
attcatagta	aagaatgaga	gttaacaata	accagtcaca	ttaaaacaag	attcctgctg	15300
ccagttgtga	aaccgggtgt	cttaggcgtg	gcagctgatg	attgagactg	tgatcaggaa	15360
aatttccact	atttcatcag	gcctaataagg	tagattgtgt	ctccaaatga	actgtgttgg	15420
gtttccatgc	ttaaagcaca	atagaggtgg	tgcaagaatc	tccatgaggg	cttaaatggc	15480
agtgtatggtt	caggcggtag	agtttggaga	agaagggatt	tgaaacaaac	caaaggaaag	15540
aaaaagtaagt	agccagaaat	cacaaaatgg	cattttctta	aaaacaaagg	aaaaggaata	15600

aaagaactaa taagttgaa acccctaccc ctcccaaatt tggcaggggg ggaggtattt 15660  
tttttctatc tatctaacta acccatctag aaaacagttg accaaattat agacttctaa 15720  
atgttaatct gctttctcag tttcagttga aaagagactt tgttttgcct actgcagaac 15780  
ttctaggttc tttcttatacg tcttggggtt cttattatag atcgaaaatg tgagtcggca 15840  
taattaagcc attcggagtc ttcagaagca gttcactctt gaaatgactc cgccgccta 15900  
cagccattta agatttcaga acaaaaacag atcttgattt tcttttcat gttaactcaa 15960  
gctgttgctg agtgggagag tcagaaatga caccagctcc actgattact cagctgctga 16020  
aggatgattt tttaaaatgc acctttactg tataatggact tcctaatttc caccgtaga 16080  
gcacatctagg gaggctaaca tgtcactctg gatgttctt tagaataaga tgcaaattcta 16140  
tttttctgaa ggcatttagag atagcaaaca tttattgtga gtttactata tactaggcac 16200  
tgtgctaagt gttttgcata gaaagtttaa aattctggct tttttgttgg cccaatcata 16260  
agtttcataat cagttcaaca ttcaaattat attaaggtac ttaagaagaa tccctggcta 16320  
aatgtgaggg gcagtgcac agatggactg aaactttatg cttattgcac atttatgcta 16380  
tttatttttgc ttgaattata gaaccaaggg agtgttggaaag ccactggaaa aaatatgaga 16440  
cttagataca taatttgagt aaaaatggct caaagtcatg agggtaaagt tttttgtatt 16500  
tccattttat tcgagcggca tcgttttaa aaatcattat gaatttgacc ctatatacat 16560  
gtttccaaat aattctttt caccttcata aaattccttc ctgtggctgt gagatgcctt 16620  
gcctatcagt tttcaagctt agttgtctt ctcatcctt accatttttag cttaaaaaaa 16680  
caaaagtgac aattagaact tcctgcctgc tgggcctcac tgaaagaccg atattggcct 16740  
gataaggaga tattttatgtt gtttttagtgg cttcagaaat ccctctccct cagcaagctt 16800  
tccatcacgg cccccccgtc agcatcttcc ctgatagcgt tcttctctgt gtttattctg 16860  
gggcttcagg ctcgcccagg aggaactgat aaccgctggc aggagataac attctctaag 16920  
gggctctcaa attggaatcg aatccctcaa gccagtcagc ctagagaata cattaaagg 16980  
gttcagttct ggagttcac agagttcatt tctagaccta tcagatagca agtgtggagt 17040  
tctttctcaa ctaaattcaa gcagagacat ttttttagacg atgaaggata tttgcacaaa 17100  
ggcttcagca tgatccccca aacctgctgc ctctgaaggc atctccacac attgacagcc 17160  
aatgccttca gtgcgttcct agggcaggtg tcctggcttg agtgcactgac ctccaataat 17220  
cagagctcaa actaaacatc gtatgtttt cttttgggtt ccaggcaagg ctgagcaggg 17280  
aattttcagt tttccctgccc cagatgggtg ttttttcctg aaggcatcat ttattgtgta 17340

gcgaggagac agggctggct gtggcaggga tagtctagaa ctgtcctcat tgctgctgtt 17400  
cctaaatagt atctttacca agtaataacg tgccgtcttt gggataaagt gcttcctct 17460  
tagcctgttc tgttttcttg ggtgcgctaa gtaattgaac tggctcagga agtacctatt 17520  
gtggtttggc agaggtgact gtcacgcctt gtgactccag gggccagcac tgctgggatc 17580  
ctggctagac cagacagagc cttggtaaag tgcttaggct gtctgcacat cgcgaggaag 17640  
gtggtattca ctgcctaag ctccttggca taggcagttt gaacaggctt ttatcaaatt 17700  
cgtattcaac aagagttagaa gcgaaaattt atgactgtgt attactttagaa atgagtctt 17760  
atcttcaca ttttagttctc agggatgtct gatttccttt aggtaaacca tgaacatcag 17820  
aaagactttt attaacctat gacagggtcc ccacccagt attttccac tccattaaaa 17880  
tggaaagttt tttttttttt ttcttttttg agacagagtt ttgctcttgt tgccagtc 17940  
ggagtgcataa ggcacaatct cggctcacca caacccaccc ctcccagatt caagcgattc 18000  
ttctgcctca gcctcccaag tagctggat tacaggtgtg cgccaccacg cccagctaat 18060  
tttgtatttt tagtagagat ggggtttctc catgttggtc aggctggct cgaacttccg 18120  
acccaggtg atccgccccac ctcggcctcc caaagtgttg ggattacagg caagagccac 18180  
tgcattccagc ttaggctatc ttactccagc ctaaacagca attttctatc ataaggtctg 18240  
tactaatgaa aacagaatca cccaggctg ctgtttgtt tgcgtgtct gccattgtcc 18300  
gcattttgtt gaggaggaaa cggaaactgca cttttgagtg agtggccag agcattctag 18360  
aatgagatgt cggttggaaagc cagatatgtg gcgattgtgt cgccagctgt tactcaggtt 18420  
ttctcaagaa ggaggagcaa ctttggcagt tttgcttcag ttctctctag ccctctgtgt 18480  
aatcgccccct ttttctttat ttccaccaaa acacagagca gtctaaagca accgagcact 18540  
gagaaaaatg aactctgccc aaagaatgtc ccaaagagag agtacagcgt gaaagaaaatc 18600  
ctaaaattgg actccaaaccc ctccaaagga aaggacctt accgttctaa catttcaccc 18660  
ctcacatcag aaaaggaccc cgtactttt agaagacgtg ggagccccga aatgccttc 18720  
taccctcggg tcgtttaccc catccgggccc cctctgcccag aagactttt gaaagcttcc 18780  
ctggcctacg ggatcgagag acccacgtac atcactcgct ccccccattcc atcctccacc 18840  
actccaaagcc cctctgcaag aagcagcccc gaccaaaagcc tcaagagctc cagccctcac 18900  
agcagccctg ggaatacggt gtcccctgtg ggccccggct ctcaagagca ccgggactcc 18960  
tacgcttact tgaacgcgtc ctacggcactg gaaggtttgg gcttcttaccc tggctacgca 19020

cccctgcccc acctcccgcc agctttcata ccctcgata acgctcacta ccccaagttc 19080  
 ctcttgcccc cctacggcat gaattgtaat ggctgagcg ctgtgagcag catgaatggc 19140  
 atcaacaact ttggcctt cccgaggctg tgccctgtct acagcaatct cctcggtggg 19200  
 ggcagcctgc cccacccat gctcaacccc acttctctcc cgagctcgct gcctcagat 19260  
 ggagcccgga ggttgctcca gccggagcat cccagggagg tgcttgccc ggcccccac 19320  
 agtgccttct ccttaccgg ggccgcccgc agcatgaagg acaaggcctg tagccccaca 19380  
 agcgggtctc ccacggcggg aacagccgcc acggcagaac atgtggtgcg gcccaaagct 19440  
 acctcagcag cgatggcagc ccccagcagc gacgaagcca tgaatctcat taaaaacaaa 19500  
 agaaacatga cccgctacaa gacccttccc tacccgctga agaagcagaa cggcaagatc 19560  
 aagtacgaat gcaacgtttg cgccaagact ttccggccagc tctccaatct gaaggttaggc 19620  
 cttgagagag agcagtccaa ggggctgtga gtgcattgtt gtgtttgtat ttagcttgct 19680  
 ttccatgggg tatcgattgc atttgcagta gtatgagccc ccgggtgggg atagtggta 19740  
 tggattccgc ctggcttttgc ccacttcttag ctctttgact ttggacaagt gacttccctt 19800  
 ctccctgattt tcttctgaat aataaaaaaa ttaggggttt ggactagaag attaggtgaa 19860  
 actccctgct agcctgtgat ttttgcattt ttaagaaaaa caccattctg aaaacatgaa 19920  
 gatttcttct ttttaagact gtcttgatgc ttttcttaag atatttgcattt caacacttga 19980  
 gtcttgagc agaaatgtta ggtctcagag ccagcttgcg agcagagcta acacatgtgg 20040  
 cttctccca ggtccacccctg agagtgcaca gtggagaacg gccttcaaa tgtcagactt 20100  
 gcaacaaggg cttaactcag ctcgcccacc tgcagaaaca ctacctggta cacacgggag 20160  
 aaaagccaca tgaatgccag gtgcgcagta ttttctgggt agaccttctg accttgcatt 20220  
 aaaatgtctg tgagtcaccc tcccatgtcc tatatacgccc gtagttaaag ccaacaccag 20280  
 attctgcgtt gtcccatctt ggactgtatgg cactatggtc ctccctgatctt ctttgcatt 20340  
 gctgatgact tgagatggca cagccagctt ccagtggtg ggaaaatggt agggaaata 20400  
 aacagccct cgtgtgctgt gtgcccacat ccccccgttt gcttaataacc acactggagg 20460  
 tgccacaagg aggcttctca ctccttaggt tgctggcggt tggccggtaa gcctgcccct 20520  
 cccgttggca actcttaatc ttctggcattt cctgtctccc ttccctgatct tctctctccc 20580  
 ctacactgta ggtctgcccac aagagattta gcagcaccag caatctcaag acccacctgc 20640  
 gactccattc tggagagaaa ccataccat gcaaggtgtg ccctgccaag ttcacccagt 20700  
 ttgtgcaccc gaaactgcac aagcgtctgc acaccggga gcggcccccac aagtgcctcc 20760



tggttaattt aatggaagat gaaagggcat tgcaaagttg ttcaacaaca gttacctcat 22500  
'tgagtgtgtc cagtagtgca ggaaatgatg tcttatctaa tgatttgctt ctctagagga 22560  
gaaaccgagt aaatgtgctc cagcaagata gactttgtt tattctatct tttattctgc 22620  
taagccccaa gattacatgt tggtgttcaa agttagtcaa aaaatgatgt atatttataa 22680  
atctatttat accactatac catatgtata tatatttata accacttaaa ttgtgagcca 22740  
agccatgtaa aagatctact ttttctaagg gcaaaaaaaaaaaaaaaaaaaa 22800  
tcctttctga gactttgtt aatacttggt gacccacaa tcacgtcggt atgattggc 22860  
acccttgcct actgtaagag accctaaaac cttggcag tggtgggac cacaaaacaa 22920  
ccagggagga agagatacat catttttag tattaaggac catctaagac agctctattt 22980  
ttttttgcc actttatgtat tatgtggtca caccctaaatc acagaaataa aaaactgact 23040  
ttaccgctgc aattttctg ttttcctcct tactaaatac tgatacatta ctccaaatcta 23100  
ttttataatt atatttgaca ttttgttcaat atcaactaat gttcacctgt agaagagaac 23160  
aaatttcgaa taatccaggg aaacccaaga gccttactgg tcttctgtaa cttccaagac 23220  
tgacagctt ttatgtatca gtgtttgata aacacagtcc ttaactgaag gtaaaccaaa 23280  
gcatcacgtt gacattagac caaatacttt tgattccaa ctactcgttt gtttttttc 23340  
tcctttgtg ctttccata gtgagaattt ttataaagac ttcttgcttc tctcaccatc 23400  
catccttctc ttttctgcct cttacatgtg aatgttgagc ccacaatcaa cagtggtttt 23460  
atttttcct ctactcaaag ttaaaaactga ccaaagttac tggctttta ctttgctaga 23520  
acaacaaact atcttatgtt tacatactgg tttacaatgt tatttatgtg caaattgtca 23580  
aaatgtaaat taaatataaa tggcatgct ttacc 23615